Receiver 70FR260/00R/05F

Service
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Service Manual

FT260
FA260

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Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne".

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SPECIFICATION

General		Nominal value	Typical value
Mains voltage		: 220 V – 240 V~	: 220 V – 240 V~
Mains outlet		: For power supply of CD or record player	: For power supply of CD or record player
Low voltage outlet (12 V DC)		: For power supply of cassette deck	: For power supply of cassette deck
Mains frequency		: 50 – 60 Hz	: 50 – 60 Hz
Power consumption		: W max	: W max
Dimensions (WxHxD)		: 360 x 180 x 300 mm	: 360 x 180 x 300 mm
Weight		: kg	: kg
Remote control		: RC290	: RC290
Tuner: FM section			
Tuning range		: 87.5 MHz to 108 MHz	: 87.5 MHz to 108 MHz
Aerial inputs		: 75 Ω coaxial	: 75 Ω coaxial
Sensitivity	mono	: µV 26dB S/N at 98 MHz	: 1.3 µV 26dB S/N at 98 MHz
at 75Ω △f 75 kHz	stereo	: µV 46dB S/N at 98 MHz	: 25 µV 46dB S/N at 98 MHz
Selectivity		: dB at 300 kHz off ressonance	: 60dB at 300 kHz off ressonance
Suppression	IF-AM	: dB – dB	: 80dB – 50dB
	pilot tone	: dB	: 50dB
	image frequency	: ..dB (at 106 MHz)	: 75dB
Channel separation	(1kHz mod)	: 40dB	: 40dB
Distortion T.H.D	mono	: 0.25 %	: 0.3 %
	stereo	: 0.7 %	: 0.5 %
Signal/noise	mono	: dB	: 74dB
ratio	stereo	: dB IEC weighted	: 68dB
tuner: AM section			
Wave ranges	MW	: 522 kHz to 1611 kHz	: 522 kHz to 1611 kHz (585-187 m)
	LW	: 153 kHz to 281 kHz	: 153 kHz to 281 kHz (1960-1067 m)
Sensitivity		: µV 26 dB S/N (600 kHz)	: 200 µV 26 dB S/N (600 kHz)
Selectivity		: dB at 9 kHz off resonance	: 27dB at 9 kHz off resonance
Suppression	IF	: dB	: 55dB
Output		: mV	: mV
Tuner: Digital section			
Tuning steps	FM/MW/LW	: 50 kHz / 9 kHz / 1 kHz	: 50 kHz / 9 kHz / 1 kHz
Presets	FM/MW/LW	: 29 / 29/ 29 random sequential	: 29 / 29/ 29 random sequential
Amplifier			
Output power		: W in Ω (FTC) W in Ω (DIN) W in Ω W in Ω (IEC)	: 43 W in 8Ω (1 kHz, D = 10%) 40 W in 4Ω (1 kHz, D ≤ 1%) 35 W in 8Ω (1 kHz, D ≤ 1%) 30 W acc. to IEC
Distortion			
T.H.D.		: ≤0.1% at 1 kHz	: ≤0.09% at 30W for 1 kHz, 8Ω
Intermodulation		:	: 0.1% at 25 W
Frequency response			
Lineair inputs		: from Hz - kHz ± dB	: from 20 Hz - 20 kHz ± 1.5dB
Equalized inputs		: from Hz - kHz ± dB	: from 20 Hz - 20 kHz ± 1.5dB
Bass control		: at Hz + dB to – dB	: at 80 kHz + 10 dB to –10dB
Treble control		: at kHz + dB to – dB	: at 10 kHz + 10 dB to –10dB
Balance control		:	: 0–50dB
Signal/noise ratio			
weighted		:	: 95 dB
Channel separation		: at 1000 Hz ≥ dB	: at 1000 Hz ≥ 60dB
Input sensitivity		: mV at kΩ	: 150 mV at 25 kΩ
Phono MD		: 5 mV at 2.2 kΩ (FTC)	: 2.1 mV at 4 kΩ (FTC)
Tuner		: mV at kΩ (FTC)	: 150 mV at 25 kΩ (FTC)
Tape 1		: mV at kΩ (FTC)	: 150 mV at 25 kΩ (FTC)
Tape 2/VCR		at 250 Hz-10 kHz ≥ dB	at 250 Hz-10 kHz ≥ 35dB
CD/CDV		: 500 mV at 1 kΩ (FTC)	: 150 mV at 25 kΩ (FTC)
Aux 1/TV		: mV at kΩ (FTC)	: 150 mV at 25 kΩ (FTC)
outputs			
Tape 1		: mV	: 150 mV
Tape 2/VCR		:	: 150 mV
Loudspeakers 2x2		: 8Ω	: 8Ω
Headphones		: 8–1000Ω	: 8–1000Ω
Processor in/out		:	: 150 mV

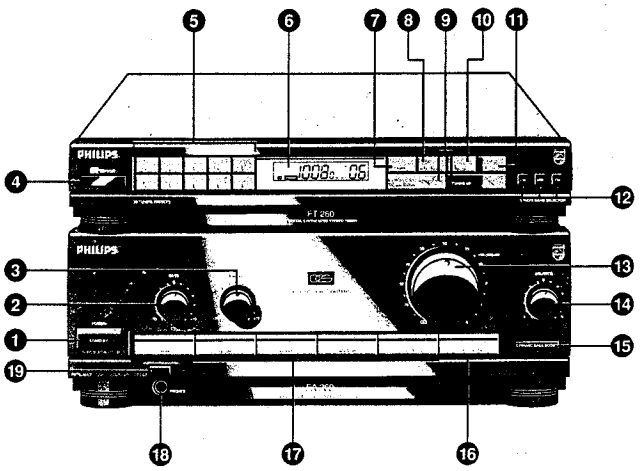
(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

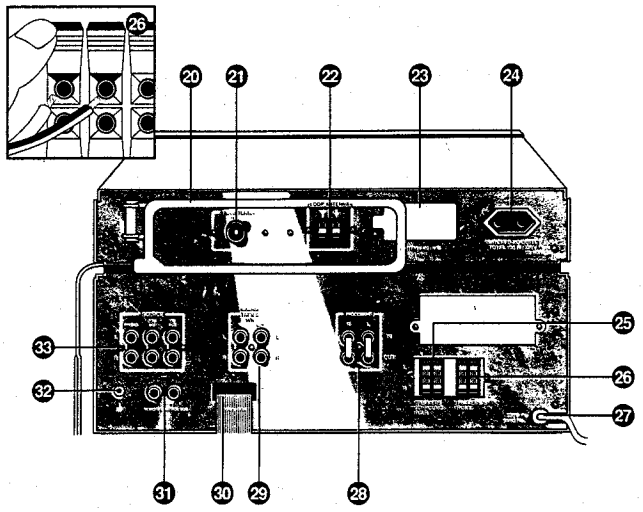
(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricamblago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.





CONNECTIONS AND CONTROLS

1 Stand by button
2 Bass control
3 Treble control
4 Sensor
5 Presets 0-9
6 Display
7 –/–– Button
8 Auto/Man button
9 Tuning up/down buttons
10 Memo button
11 Mono button
12 Waveband buttons
13 Volume control
14 Balance control
15 Dynamic bass boost button
16 Monitor-tape 2/VCR
17 Source selectors
Phono
Tuner
CD-CDV
Aux 1/TV
Tape 1
18 Phones socket
19 Surround sound button

20 Loop aerial
21 FM antenna
22 Loop antenna
23 Battery
24 Switched AC outlet
25 Speakers surround
26 Speakers
27 Mains lead
28 Processor in/out
29 Monitor-tape 2/VCR sockets
30 Tape 1/cass
31 remote control
32 Ground terminal
33 Source input sockets for:
Phono
CDV/CD
TV/aux

(GB) Servicing hints:

1. The bass, treble and balance buttons cannot be removed directly from the front plate.
   The buttons are fixed on the back of the front (see exploded view).
   Note: When mounting the operating board, one should take care that the buttons are in "0" position and the potentiometers in mid–position (see exploded view).
2. Volume button 408 has been provided with a led indicator.
   Fig. 1 shows the path of the 2 wires to the led.
3. Fuses SI1 and SI2 are situated on the trafo board. They can be reached by removing lid 518 from rear panel 521.
4. Decasing instructions in connection with the accessibility of the printed–wiring boards for measurement (see also the exploded view).

a. The amplifier supply board can be reached by removing bottom plate 507 (8 screws). The 4 feet of the set need not be removed for this.

b. The plug source selector board can be reached by first carrying out step a. and then disconnecting the bottom rear panel 521 (4 screws).

c. The RF–IF board, the operating board, the volume control board and the trafo board (partly) can be reached by removing top plate 506 (2 screws on the back). Then lift the back of the top plate a little and pull it backward. When mounting the top plate, place it flat on the set and push it forward.

5. The printed–wiring boards have been provided with a connector at several places (such as 2A, 4A, etc.).
   Fig. 2 indicates the mounting and demounting of the wiring.

(NL) Service wenken:

1. De knoppen bass, treble en balance zijn niet rechtstreeks vanaf het voorfront te verwijderen. De knoppen zitten aan de achterkant van het front bevestigd (zie exploded view).
   Opmerking: Bij montage van de "operating panel" moet men er op letten, dat de knoppen in de "0" positie en de potentiometers in de middenstand staa (zie exploded view).
2. De volume knop 408 is uitgevoerd met een ledindicator.
   Fig. 1 geeft de loop van de 2 draden naar de led aan
3. De zekeringen SI1 en SI2 zitten op het "trafo panel". Deze zijn te bereiken door deksel 518 van het achterpaneel 521 te verwijderen.
4. Uitkastvoorschrift i.v.m. bereikbaarheid printen voor het meten (zie ook exploded view).

a. De "Amplifier-supply panel" is te bereiken door onderplaat 507 (8 schroeven) te verwijderen. Hierbij kunnen de 4 voetjes van het apparaat blijven zitten.

b. De "Plug source selector panel" is te bereiken door eerst punt a. uit te voeren en daarna het onderste achterpaneel 521 (4 schroeven) los te koppelen.

c. De "RF-IF panel", de "Operating panel", de "volume control panel" en de "Trafo panel" (gedeeltelijk) zijn te bereiken door de bovenplaat 506 (2 schroeven achterzijde) te verwijderen. Vervolgens de achterzijde van de bovenplaat iets optillen en naar achter trekker Bij montage de bovenplaat vlak op de apparaat leggen en vervolgens naar voren schuiven.

5. De printen zijn op diverse plaatsen met een connecto uitgevoerd (zoals 2A, 4A etc.).
   Fig. 2 geeft de montage en de demontage van de bedrading aan.

(F) Conseils service

1. Les boutons "bass", "treble" et "balance" ne peuvent être enlevés directement par l'avant de l'appareil. Ils sont fixés à l'arrière du frontal (voir vue éclatée).
   Remarque: au montage du operating panel, veillez à ce que les boutons se trouvent en position "0" et que les potentiomètres soient en position intermédiaire (voir vue éclatée).
2. Le bouton du volume 408 possède un indicateur lumineux.
   En fig. 1 on voit le parcours des deux fils vers la LED.
3. Les fusibles SI1 et SI2 sont montés sur la carte du transfo et sont accessibles après avoir enlevé le couvercle 518 du panneau arrière 521.
4. Instructions de dépose (eu égard à l'accessibilité de des cartes en matière de mesure) (voir aussi à la vue éclatée).

a. la 'amplifier–supply panel' est accessible après avoir enlevé le panneau du fond 507 (8 vis). Les quatre pieds de l'appareil peuvent rester en place.

b. la 'plug source selector panel' est accessible après avoir excécuté le point a. et détacher par la suite le panneau arrière inférieur 521 (4 vis).

c. Les 'RF-IF panel', 'Operating panel', 'volume control panel' et 'trafo-panel' (partiellement), sont accessible après avoir enlevé le panneau supérieur 506 (2 vis à l'arrière). Soulever ensuite un peu l'arrière du pannea supérieur et le tirer par l'arrière. Au montage, poser l plaque supérieure bien à plat sur l'appareil et la faire glisser vers l'avant.

5. Les cartes possède un connecteur en divers endroits (tels les 2A, 4A etc.).
   En Fig. 2 on trouvera le montage et la démontage du câblage.

(D) Servicehinweise:

1. Die Knöpfe 'bass', 'treble' und 'balance' lassen sich nicht unmmittelbar von der Vorderfront an beseitigen. Die Knöpfe sind auf der Rückseite der Frontplatte befestigt (siehe Explosionsansicht).
   Anmerkung: Beim Einbau der 'operating panel' ist zu beachten, dass sich die Knöpfe in der Nullstellung und die Potentiometer in der Mittelstellung befinden (Sieh Explosionsansicht).
2. Der Lautstärkerreglerknopf 408 ist mit einem Leuchtdiodenanzeiger ausgestattet. Bild 1 zeigt den Gang der 2 Drähte zu der Leuchtdiode.
3. Die Sicherungen SI 1 und SI2 befinden sich auf der 'trafo panel'. Sie sind zugänglich durch Abnahme des Deckels 518 von der Rückplatte 521.
4. Ausbauvorschrift i.b.a. Zugänglichkeit den Leiterplatten zum Mesen (siehe auch Explosionsansicht).

a. Die 'amplifier-supply panel' ist zugänglich durch Beseitigung der Unterplatte 507 (8 Schrauben). Dabei können die 4 Füsschen des Geräts an ihrer Stelle verbleiben.

b. Die 'plug source selector panel' ist zugänglich, indem zuerst Punkt a. durchgeführt wird und anschliessend die untere Rückplatte 521 (4 Schrauben losgekuppelt wird.

c. Die 'RF-IF panel', die 'operating panel', die 'volume control panel' und die 'trafo panel' (teilweise) sind zugänglich durch abnahme der Oberplatte 506 wenig anheben und rückwärts ziehen. Beim Einbau die Oberplatte flach auf das Gerät legen und dann vorwärts schieben.

5. Die Leiterplatten sind an mehreren Stellen mit einem Steckverbinder ausgeführt (wie etwa 2A, 4A usw.). Bild 2 zeight den Einbau und den Ausbau der Verdrahtung.

(I) Consilgi utili

1. Le manopole bass, treble e balance non sono direttametnte estraibili dalla parte anteriore del mobiletto, poiché queste manopole sono state fissate alla parte poteriore di questa facciata (si v. a proposito la sezione esplosa).
   Attenzione: però che l'installazione dell'operating panel va accomagnata da altre due condizioni: l'azzeramento di tutte le manopole è indispensabile che i potenziometri si trovino a metà strada (si v. a proposito la sezione esplosa).
2. Il controllo volume 408 è stato munito di un indicatore LED. Fig. 1 indica il collegamento di due cavi con il LED.
3. Le valvole di sicurezza SI1 e SI2 sono situate nel trafo panel e si trovano rimuovendo il coperchio 518 dal pannello posteriore 521.
4. Si prega di prendere in atto le seguenti regole quando di passa allo smontaggio dei seguenti pezzi: (queste regole sono in relazione alla portata degli stampati che esegue operazione di misura (si v. appunto la sezione esplosa)).

a. Svitando otto viti dal basso 507 si trova il "Amplifier-supply panel", tenendo a mente che i quattro piedini dell'apparecchio possono rimanere al loro posto.

b. Il "plug source selector panel" si trova eseguendo prima a, e svitando successivamente 4 viti dall pannello posteriore 521.

c. Rimuovendo due viti posteriori dalla parte superiore 506 del mobiletto si trovano il "RF-IF panel", l' "operating panel", il "volume control panel", nonché il "Trafo panel" (parzialmente). Sollevare un po' la parte posteriore del mobiletto di sopra e tirarlo indientro. Durante l'installazione è indicato mettere la parte superiore diritta sull'aparecchio e, conseguentemente tirarla avanti.

5. Gli stampati sono state munite in diversi posti di un connettore, p.es. 2A, 4A etc.
   Fig. 2 indica come attaccare e staccare i cavi.

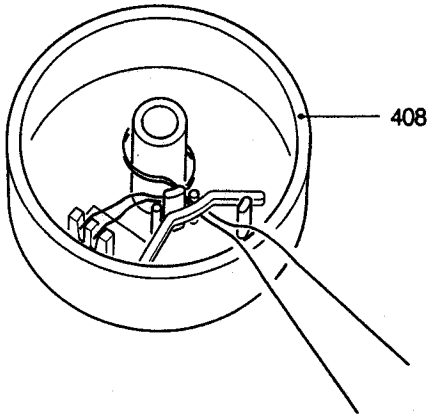


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Fig. 1

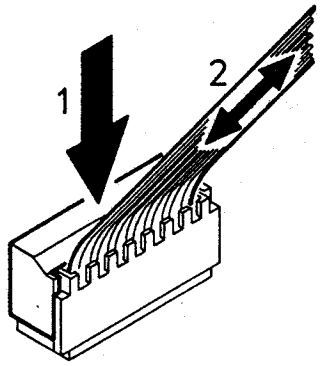


Fig. 2

(GB) SERVICE TEST PROGRAMME

The microprocessor contains a test programme which carries out the following chapters fully automatically when switched on.

1. Software version of the display
2. RAM test
3. Display test

Switching on the test programme

The test mode can be selected by depressing the FM and Phono buttons simultaneously.
The set should be in the stand–by mode for this.
The test programme will not be started if the microprocessor is defective or if a few basic conditions are not fulfilled.
In case of a supposed defect in the control section, it is therefore recommended that you first check the supply voltage, the function keys, the clock signal and the reset pulse.

Switching off the test programme

a. The test programme cannot be left during the testing of chapters 1 and 2.
b. The test programme can be left during the testing of chapter 3 in the following way:
   Press the tuning up button for 1 second.

1. Software version of the display

After the test programme is switched on, the software version of the display (E.G. 1) appears in the preset field (digit 1 Fig. 4) after 2 seconds.
After about 1 second the software version will have disappeared again and the RAM test will start automatically.

2. RAM test

The RAM test is now carried out fully automatically.
If the test passes off positively, a "1" will be shown in the preset field (digit 1 Fig. 4) for 1 second. If the test does **not** pass off positively, a "0" will be displayed in the preset field for 1 second.
After this the display test starts automatically. (Also if the RAM test was **not** positive).

3. Display test

After the RAM test has been completed, the display test starts with a blank display.
The display is automatically tested according to table 1.
All segments mentioned in the table will be visible for 1 second. If table 1 has been completed, all segments of the display will remain on (see fig. 4) until the test is ended by means of the tuning up button (press it for 1 second).
Then the set returns to the stand–by mode.

Note: as already described, this test can be ended prematurely during the automatic testing by pressing the tuning up button (for 1 second). In that case the set will adopt the stand–by mode again.

(NL) SERVICE TESTPROGRAMMA

De microprocessor bevat een testprogramma, welke na het inschakelen de volgende hoofdstukken volledig automatisch afwerkt.

1. Software versie van de display
2. Ram-test
3. Display-test

Inschakelen testprogramma

Het apparaat kan in de testmode worden geplaatst door gelijktijdig de toetsen "FM" en "phono" in te drukken.
Het apparaat moet hierbij in de stand-by mode staan. Het stestprogramma wordt niet opgestart als de microprocessor defect is of als niet aan enkele basisvoorwaarden wordt voldaan.
Controleer dan ook eerst bij een vermeend defect in het bedieningsgedeelte de voedingsspanning, de functietoesten, het clock-signaal en de resetpuls.

Uitschakelen testprogramma

a. Het testprogramma kan tijdens het testen van de hoofdstukken 1 en 2 niet verlaten worden.
b. Het testprogramma kan tijdens het testen van hoofdstuk 3 wel verlaten worden en wel als volgt: Druk de toets tuning up 1 seconde in.

1. Software versie van het display

Na het inschakelen van het testprogramma verschijnt in het preset veld (digit 1 Fig. 4) na 2 seconden de software versie van het display (bijv. 1). Na ongeveer 1 seconde is deze weer verdwenen en start automatisch de ram-test.

2. Ram-test

De Ram-test wordt nu dus ook volledig automatisch afgewerkt. Indien de test positief verlopen is, zal gedurende 1 seconde in het preset veld (digit 1 Fig. 4) een "1" gegeven worden. Indien **niet** positief verlopen, dan zal gedurende 1 seconde in het preset veld een "0" gegeven worden.
Hierna start automatisch de display test. (Ook al is de Ramtest **niet** positief verlopen).

3. Display-test

Na beëindiging van de Ram-test start de display-test met een blank display.
Achtereenvolgens wordt het display volgens tabel 1 automatisch getest.
Alle in de tabel genoemde segmenten zijn één seconde zichtbaar. Indien alles volgens de tabel 1 doorlopen is blijft het display met alle segmenten aan staan (zie Fig. 4), totdat de test d.m.v. de tuning up toets (1 seconde indrukken) beëindigt wordt.
Het apparaat komt dan weer in de stand-by mode.

Opmerking: zoals reeds beschreven kan deze test gedurende het automatisch testen d.m.v. de tuning up toets (1 seconde indrukken) eerder beëindigd worden.
Het apparaat komt dan weer in de stand-by mode.

(F) PROGRAMME TEST DE SERVICE

Le microprocesseur comporte un programme de test qui se déroule automatiquement après que l'appareil est mis en fonction. On aura donc:

1. Logiciel de l'afficheur
2. Test de la RAM
3. Test de l'affichage

Mise en route du programme de test

L'appareil sera mis au mode de test par pression simultanée des touches "FM" et "phono", à condition que l'appareil est en position de veille.
Le programme de test n'est pas démarré si le microporcesseur est défectueux ou si certaines conditions de base ne sont pas remplies.
A cet effet, vérifier, en cas de suspicion de défectuosité dans la section de commande, avant tout, la tension d'alimentation, les touches de fonction, le signal d'horloge et l'impulsion de remise a zéro.

Mise hors fonction du programme de test

a. Il n'y a pas moyen de quitter le programme de test pendant les tests des chapitres 1 et 2.
b. Il y a moyen de quitter le programme de test pendant le test du chapitre 3, il suffit d'appuyer sur la touche "tuning up" pendant 1 seconde.

1. Logiciel de l'afficheur

La version du logiciel de l'afficheur apparaît 2 secondes après la mise en service du programme de test dans le champ de préréglage ('digit' 1 Fig. 4). (par exemple 1). Après env. 1 sec. elle disparaît et le test de la RAM débute automatiquement.

2. Test de la RAM

Le test de la RAM est alors entièrement exécuté.
Si le test se déroule positivement, un "1" apparaîtra pendant une seconde ('digit' 1 Fig. 4) dans le champ de remise à zéro. Si le test n'est **pas** positif, un "0" apparaîtra pendant 1 seconde sur le même champ.
Ensuite, le test de l'afficheur commence immédiatement (même si le test de la RAM n'a pas été positif).

3. Test de l'afficheur

Après que s'est déroulé le test de la RAM, le test de l'afficheur débute par un afficheur vièrge.
Après quoi, l'afficheur est automatiquement testé dans l'ordre du tableau 1.
Tous les segments désignés dans le tableau deviennent visibles pendant une seconde. Lorsque tout est passé en revue dans la séquence du tableau 1, tous les segments de l'afficheur restent allumés
(voir fig. 4) jusqu'à ce que qu'il soit mis fin au test en pressant la touche "tuning up" pendant 1 sec.
L'appareil revient en position de veille.

Remarque: comme il avait déjà été dit plus haut, il peut être mis fin prématurément à ce test par pression (1 sec.) de la touche "tuning up". L'appareil revient alors au mode de veille.

(D) SERVICE PRÜFPROGRAMM

Der Mikroprozessor enthält ein Prüfprogramm, das nach Einschalten die folgenden Kapitel völlig automatisch erledigt.

1. Software-Ausführung des Display
2. RAM-Prüfung
3. Display-Prüfung

Einschalten des Prüfprogramms

Das Gerät kann in den Prüfbetrieb gebracht werden, dadurch dass gleichzeitig die Tasten 'FM' und 'phono' gedrückt werden.
Das Gerät muss dann im Bereitschaftsbetrieb sein. Das Prüfprogramm wird nicht angefahren, wenn der Mikroprozessor Schaden genommen hat, oder wenn nicht einige Grundbedingungen erfüllt werden.
Bei einem vermeintlichen Mangel im Bedienungsteil sind denn auch zuerst die Versorgungsspannung, die Funktionstasten, das Taktsignal und der Rücksetzimpuls zu überprüfen.

Ausschalten des Prüfprogramms

a. Das Prüfprogramm kann während dem Prüfen der Kapitel 1 und 2 nicht verlassen werden.
b. Das Prüfprogramm kann während dem Prufen von Kapitel 3 wohl verlassen werden, und zwar wie folgt: Die Taste 'tuning up' 1 Sekunde drücken.

1. Software-Ausführung des Display

Nach Einschalten des Prüfprogramms erscheint im 'preset'-Feld ('digit' 1 Bild 4) nach 2 Sekunden die Software-Ausführung des Display (z.B. 1). Nach etwa 1 Sekunde ist sie wieder verschwunden und läuft automatisch die RAM-Prüfung an.

2. RAM-Prüfung

Die RAM-Prüfung wird nun also auch vollautomatisch erledigt.
Wenn die Prüfung positiv abgelaufen ist, wird für 1 Sekunde in dem 'preset'-Feld ('digit' 1 Bild 4) eine '1' gegeben werden. Falls **nicht** positiv abgelaufen, so wird für 1 Sekunde in dem 'preset'-Feld eine '0' gegeben werden.
Darauf läuft automatisch die Displayprüfung an (auch wenn die RAM-Prüfung **nicht** positiv abgelaufen ist).

3. Display-Prüfung

Nach Abschluss der RAM-Prüfung läuft die Display-Prüfung mit einem blanken Display an.
Nacheinander wird das Display gemäss Tabelle 1 automatisch geprüft. Alle in der Tabelle aufgeführten Segmente sind 1 Sekunde sichtbar. Wenn alles gemäss Tabelle 1 durchlaufen ist, ist das Display mit sämtlichen Segmenten (siehe Bild 4) nach wie vor eingeschaltet, bis die Prüfung mittels der Taste 'tuning up' (1 Sekunde drücken) beendet wird.
Das Gerät gelangt dann wieder in den Bereitschaftsbetrieb.

Anmerkung: Wie bereits beschrieben, kann diese Prüfung während dem automatischen Prüfen mittels der Taste 'tuning up' (1 Sekunde drücken) früher beendet werden.
Das Gerät gelangt dann wieder in den Bereitschaftsbetrieb.

(I) PROGRAMMA PROVA DI SERVIZIO

Il microprcessore è stato munito di un programma de prova, che una volta programmato esegue automaticamente le seguenti fasi:

1. Visualizzazione del display in versione software
2. Prova Ram
3. Prova display

Azionare il programma

E' possibile mettere l'apparecchio in poszione "testmode", schiacciando contemporaneamente i pulsanti FM e Phono, dopo di che si lascia l'apparecchio in posizione stand-by. Il programma di prova non verrrà eseguito qualora il microprocessore sia difettoso o qualora non vengano rispettate le condizioni di base. Se ciò si verifica, è indicato controllare se c'è un guasto nel reparto di comando e, più precisamente nel cavo di alimentazione, nei tasti, nel timer o nell'autoreverse.

Disazionare il programma di prova

Va notate che:

a. questo programma non va interrotto durante le fasi (1) e (2).
b. questo programma, al contrario di quanto descritto sopra, è suscettibile di cambiamenti schiacciando il pulsante tuning up per la durata di un secondo.

Table 1

	● Decimal point (DP)
	b and e of digit 3 (see Figs. 3, 4)
	g of digit 3 (see Figs. 3, 4)
FM, MHz	a, c, d and f of digit 3 (see Figs. 3, 4)
MW, KHz	
LW,KHz	
STEREO	
MONO	
AUTO	
MAN	
MEMO	
TUNED	
000 00	
1111 11	
222 22	
333 33	
444 44	
555 55	
666 66	
777 77	
888 88	
999 99	

All segments except decimal point (DP) go on (see Fig. 4)

1. La vizualizzazione del display in versione software

Dopo che il programma di prova è stato azionato, a destra del display appara dopo per due secondi il display in versione software ('digit 1' Fig. 4). Dopo un secondo la visualizzazione sparisce nuovamente ed ha automaticamente inizio la prova Ram.

2. La prova Ram

Anche questa prova viene eseguita automaticamente. Se la prova procede senza intralci, si vedrà apparire il numero 1 ('digit 1' Fig. 4) a destra del display, se invece ci sono problemi tecnici, si vedrà apparire, sempre a destra del display (anche se la prova Ram ha avuto esiti negative).

3. La prova display

Si noti che, successivamente alla prova Ram, la prova display dà a vedere un disaplay "bianco", dopo di che il display viene controllato automaticamente secondo il pocedimento spiegato nella tabella n° 1.
Se ogni operazione è stata eseguita secondo la tabella n° 1, i dati del display resteranno visibili (si v. aproposito Fig. 4), finché la prova non verrà conclusa schiacciando per un secondo il tasto tuning up. L'apparecchio, automaticamente, si ritrova in posizione stand-by.

Si noti: però che questa prova durante la fase automatica può essere eseguita prima, schiacciando per un secondo il pulsante tuning up. L'apparecchio, automaticamente, riprende la posizione stand-by.

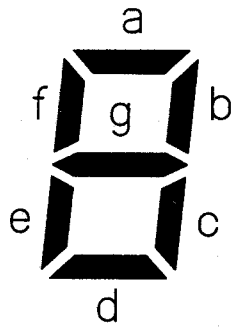


Fig. 3

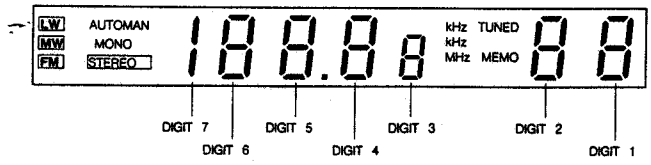
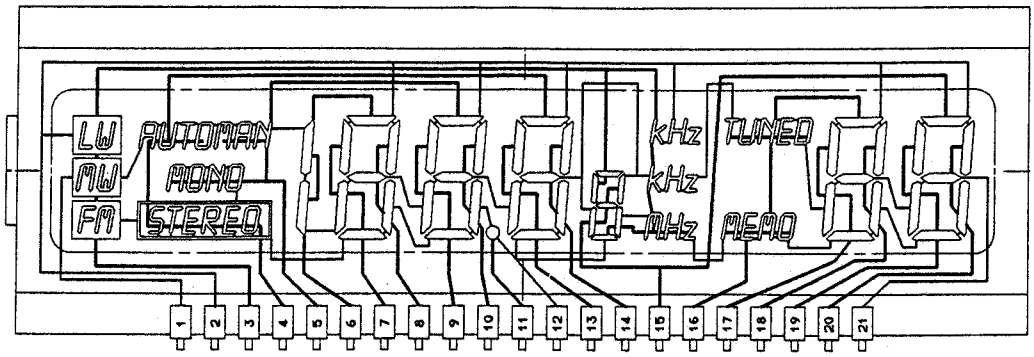
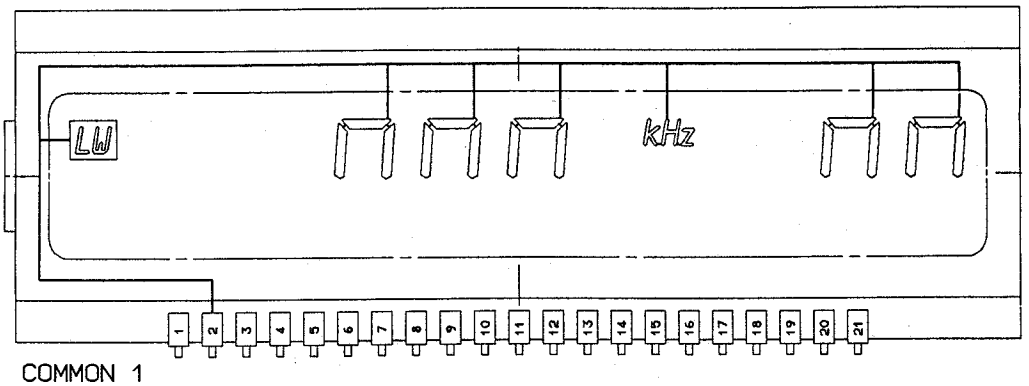


Fig. 4

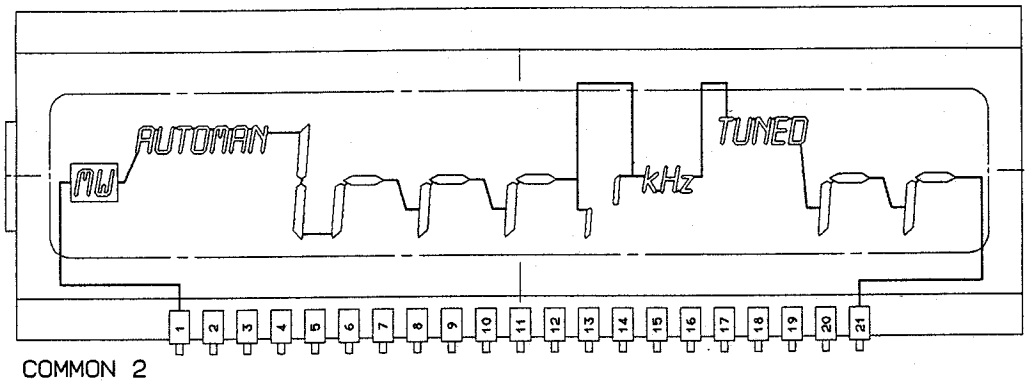
MDA.02268
T-08 932



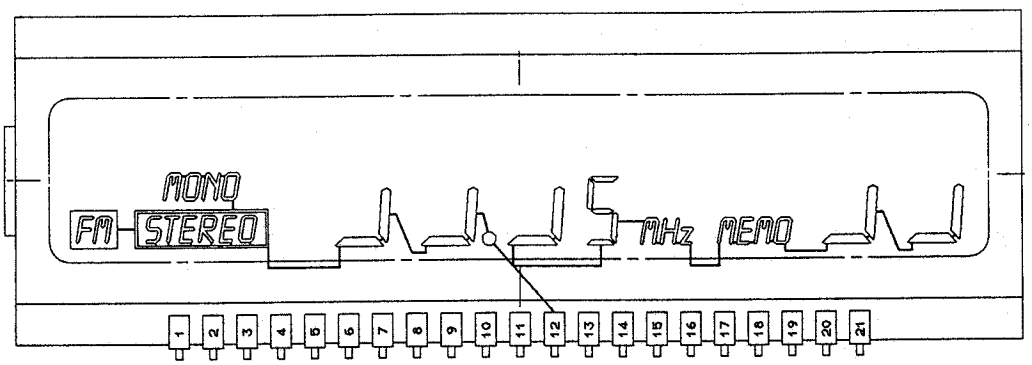
PIN 3 ... 11;
13 ... 20



COMMON 1



COMMON 2



COMMON 3

PIN-nr.	Common 1	Common 2	Common 3
1		Common 2	
2	Common 1		
3	LW kHz	MW kHz	FM MHz a3 c3 d3 f3
4	a4	Auto	Stereo
5	a5	Man	Mono
6	a6	b7 c7	
7	f6	e6	d6
8	b6	g6	c6
9	f5	e5	d5
10	b5	g5	c5
11			Decimal point
12			Common 3
13	f4	e4	d4
14	b4	g4	c4
15	a1	b3 e3	g3
16	a2	Tuned	Memo
17	f2	e2	d2
18	b2	g2	c2
19	f1	e1	d1
20	b1	g1	c1
21		Common 2	

ELECTRICAL ADJUSTMENTS AND CHECKS

General

- For the HF adjustments, the injected signals should be kept as small as possible.
- Connect the frame aerial in case AM is used.
- The AM IF amplifier is adjusted with a wobbulator signal of approx 600 kHz having a sweep of 250 kHz at a rhythm of 50 Hz.

Measuring equipment used

- Power-supply equipment
- Oscilloscope
- DC millivoltmeter
- AC millivoltmeter
- Frequency counter

ELUCIDATIONS

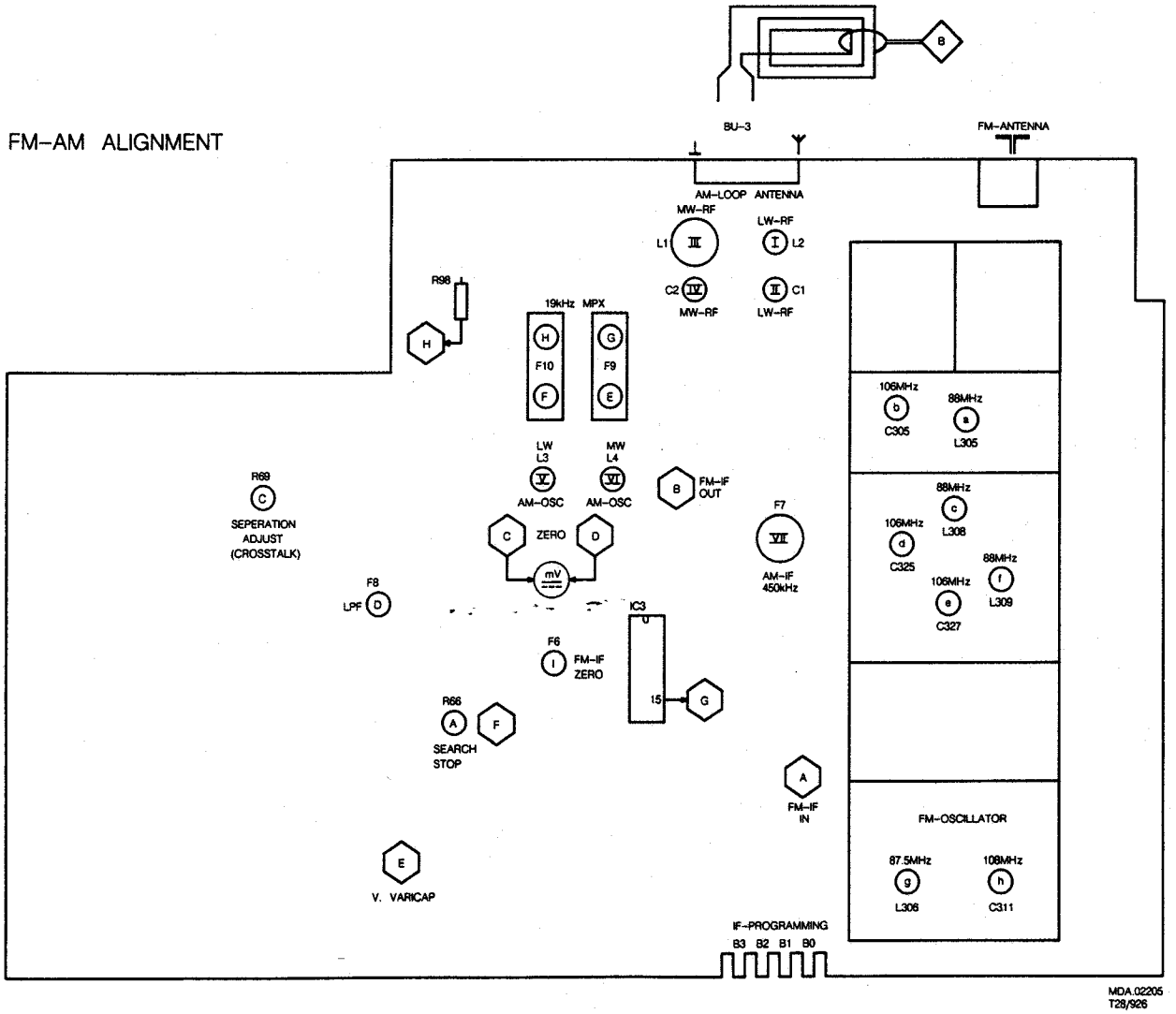
1 Place the top of the response curve in the centre c the screen by displacing the wobbulating frequenc

2 Adjust for maximum height and symmetry.

⬡ Measuring point

◯ Trimming element

FM–AM ALIGNMENT



SK... WAVE RANGE SWITCH	SIGNAL	TO	DISPLAY TUNE IN	REMARKS DETUNE	ADJUST	OSCILLOSCOPE OR A.C. METER	D.C. METER INDICATOR
FM-IF/T.H.D.							
FM	98 MHz △f 75 kHz 1 mV	FM antenna	Display 98.00 MHz				(F) max.
	fo=f generator △f=75 kHz 1 mV				(i) F6		(C) (D) 0 V ± 30 mV
FM-RF (Oscillator)							
FM	108 MHz 1 kHz mod. △f=75 kHz	FM antenna	Display 108.00 MHz		(h) C311	max. ~ (H)	(E) 8.5 V ⎓
	87,5 MHz 1 kHz mod. △f=75 kHz		Display 87.50 MHz		(g) L306		(E) 2.5 V ⎓
FM-RF							
FM	106 MHz 1 kHz mod. △f=75 kHz	FM antenna	Display 106.00 MHz		(b) C305 (d) C325 (e) C327	max. ~ (H)	
	88 MHz 1 kHz mod. △f=75 kHz		Display 88.00 MHz		(a) L305 (c) L308 (f) L309		

↕ Repeat -Herhalen - Répéter - Wiederholen - Ricomminciare

(GB) SERVICING HINTS

1. ESD

All ICs and many other semi-conductors are sensitive to electrostatic discharges (ESD).
Careless treatment during repairs may drastically reduce life.
When repairing, make sure that you are connected, via a wristlet, the same potentional as the chassis of the set.
Keep components and tools at this potential as well.
See Service information A86-1000 for this.

2. Display DP401

The outputs of the display drivers are not protected against external overvoltages! When testing the display with external voltages, you should interrupt the connection with IC401.

3. FM IF offset

The ceramic resonators (F1+F4) have different intermediate frequencies as a result of tolerances. Dependent on the IF jumper has to be applied or a bridge has to be opened. B0+B3 (see table).
The resonators have been provided with a colour code.

4. Ceramic resonators F1 + F4

When replacing one of the ceramic resonators, take care that the colour codes of all three resonators are the same.

SK... WAVE RANGE SWITCH	SIGNAL	TO	DISPLAY TUNE IN	REMARKS DETUNE	ADJUST	OSCILLOSCOPE OR A.C. mV METER	D.C. METER INDICATOR

FM - SEARCH STOP

FM	106 MHz 15 µV	FM antenna	106.00 MHz		Ⓐ R66		Ⓕ 0.7 V +0.05 V

FM - STEREO DECODER CROSSTALK

FM Stereo	106 MHz 45 % L mod. 1 kHz 9 % pilot 1 mV	FM antenna	106.00 MHz		Ⓒ R69	Ⓗ min ~ (1 kHz)	

FM - PILOT - FILTERS

FM Stereo	106 MHz 1 mV 9 % pilot	FM antenna	106.00 MHz		Ⓔ F9 Ⓕ F10	Ⓗ min ~ 19 kHz	
					Ⓖ F9 Ⓗ F10	Ⓗ min ~ 38 kHz	

(NL) SERVICEWENKEN

1. ESD

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.
Zie hiervoor service information A86-1000.

2. Display DP401

De outputs van de display drivers in IC401 zijn niet beveiligd tegen externe overspanningen! Bij het testen van de display met externe spanningen dienen de verbindingen met IC401 onderbroken te worden.

3. FM middenfrequent offset

De keramische resonatoren (F1÷F4) hebben verschillende middenfrequenties, als gevolg van toleranties. Afhankelijk van de middenfrequentie dient een jumper worden aangebracht of een brug worden geopend.
B0÷B3 (zie tabel).
De resonatoren zijn voorzien van een kleurcode.

4. Keramische resonatoren F1 ÷ F4

Bij het vervangen van een van de keramische resonatoren dient men erop te letten dat de kleurcode van alle drie resonatoren dezelfde is.

SK... WAVE RANGE SWITCH	SIGNAL	TO	DISPLAY TUNE IN	REMARKS DETUNE	ADJUST	OSCILLOSCOPE OR A.C. METER	D.C. METER INDICATOR
AM-IF							
MW	558 kHz △f 10 kHz (50 Hz)	B	Display 558 kHz			Center fo G 1	
	fo=f generator △f 10 kHz (50 Hz)				VII F7	Symetrical MAX. fo G 2	
AM-RF (Oscillator)							
MW	522 kHz 1 kHz mod. m=30%	B	Display 522 kHz		VI L4	H max ~	E 1,0 V ⎓
LW	153 kHz 1 kHz mod. m=30%		Display 153 kHz		V L3		E 1,8 V ⎓
AM-RF							
MW	1449 kHz 1 kHz mod m=30%	B	Display 1449 kHz		IV C2	H max ~	
	558 kHz 1 kHz mod m=30%		Display 558 kHz		III L1		
LW	261 kHz 1 kHz mod. m=30%		Display 261 kHz		II C1		
	162 kHz 1 kHz mod m=30%		Display 162 kHz		I L2		

‡ Repeat -Herhalen - Répéter - Wiederholen - Ricomminciare

F CONSEILS PRATIQUES

1. ESD

Tous les circuits intégrés et de nombreux sémi-conducteurs sont sensibles aux décharges électrostatiques.
Le manque de soin apporté aux réparations est susceptible de réduire considérablement la durée de vie. Veillez pendant les réparations à être connecté par l'intermédiare d'un bracelet à résistance au même potentiel que la masse de l'appareil.
Maintenez également les composants et les accessoires à ce même potentiel. Voir à ce sujet l'information du service après-vente A86-1000.

2. Afficheur DP401

Les sorties des circuits de commande d'affichage ne sont pas protégés contre les surtensions extérieures! Si l'on teste l'afficheur avec des tensions extérieures, on devra couper les connexions avec IC401.

3. Offset FM-IF

Les résonateurs céramique (F1 à F4) possèdent des fréquences intermédiaires différentes du fait de tolérances.
Indépendemment de la fréquence intermédiaire, un câble de pontage doit être monté entre B0 - B3 (voir tableau).
Les résonateurs ont un code de couleur.

4. Résonateurs céramiques F1 ÷ F4

Lors du remplacement de l'un des résonateurs céramiques, on ne devra pas oublier que les trois résonateurs ont la même couleur code.

(D) SERVICE HINWEISE

1. ESD

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.
Siehe dafür die Service Information A86-1000.

2. Display DP401

Die 'outputs' der Displaytreiber IC401 sind nicht vor externen Überspannungen geschutzt! Beim Prüfen des Displays mit externen Spannungen müssen die Verbindungen mit IC401 unterbrochen werden.

3. FM-ZF-Offset

Die Keramikkondensatoren (F1 + F4) weisen infolge der Toleranzen unterschiedliche Zwischenfrequenzen auf.
Durch die Zwischenfrequenz bedingt muss ein Brückendraht ('jumper') angebracht oder eine Brücke B0÷B3 geöffnet werden (siehe Tabelle).
Die Resonatoren sind mit einem Farbcode versehen.

4. Keramikresonatoren F1 ÷ F4

Beim Auswechseln eines der Keramikresonatoren ist zu beachten, dass der Farbcode aller drei Resonatoren der gleiche ist.

(I) CONSIGLI PER LA RIPARAZIONE

1. ESD

Tutti gli IC e molti altri semiconduttori sono sensibili alle scariche elettrostatiche (ESD).
la non attenzione durante la riparazione può ridurre drasticamente la vita di questi componenti.
Durante la riparazione bisognal aver cura di essere collegati allo stesso potenziale dello chassis dell'apparecchio. Teneri i componenti e gli attrezzi a questo potenziale.
Verdere l'informazione di srvizio A-86-1000.

2. Display DP401

Le uscite del pilota display non sono protette contro sovraccarichi esterni. Quando si eseguono controlli sul display con tensioni esterne, interrompere i collegamenti con IC401

3. Offset FM-FI

I resonatori ceramici (da F1 a F4) hanno frequenze intermedie diverse dal fatto delle toleraze diverse. Indipendentemente dalla frequenza intermedia, un filo di ponticello deve essere montato o un ponticello, aperto fra B0+B3 (vedi tabella).

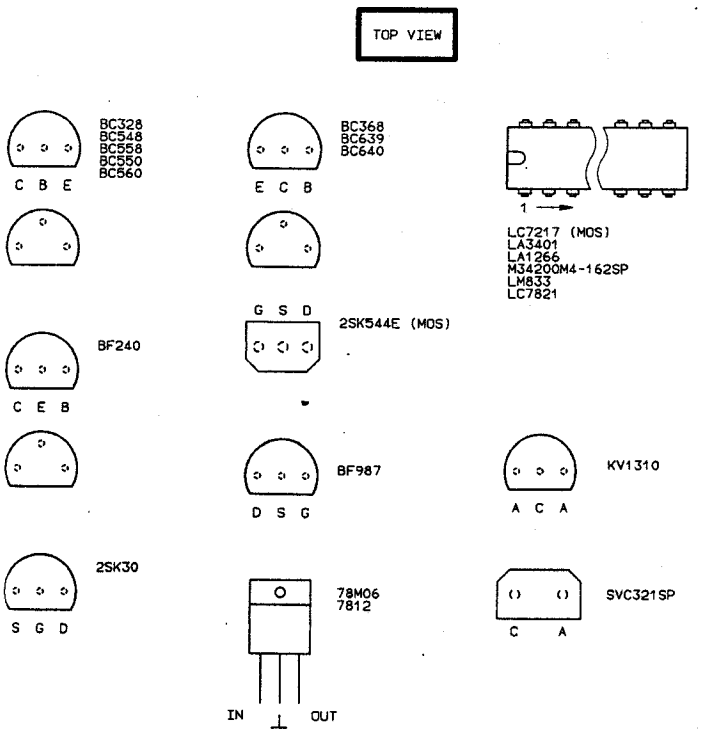
4. Risonatori ceramici F1 ÷ F4

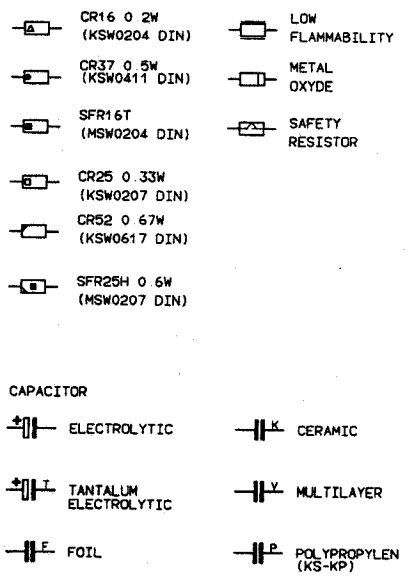
Quando si sostiuisce uno dei risonatori ceramici, assicurarsi che il codice colore di tutti e tre i risonatori sia.

FM-IF program

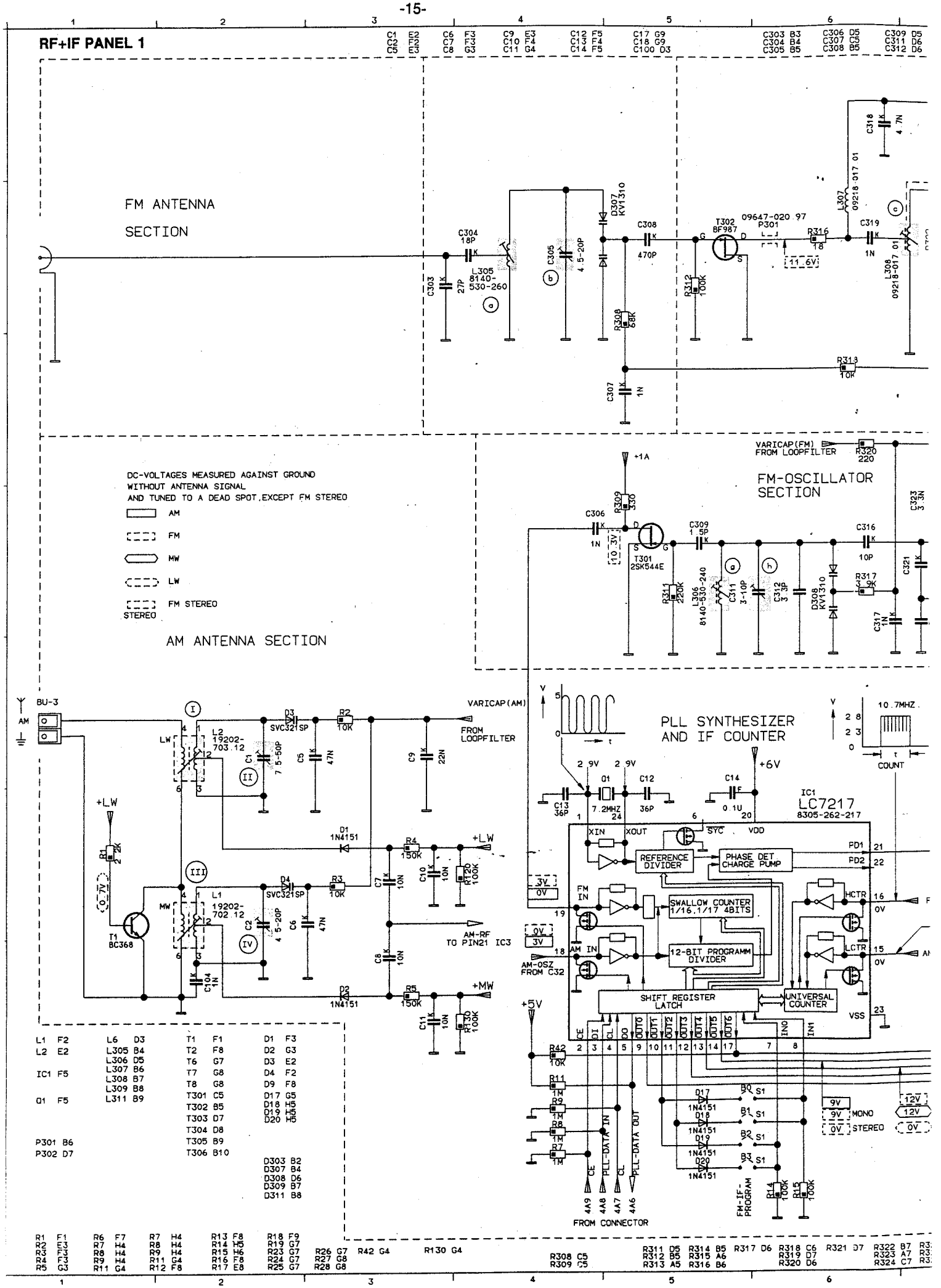
	Jumper				
IF (MHz)	B3	B2	B1	B0	Filter color
10.6500	0	1	0	0	Black
10.6750	0	1	1	0	Blue
10.7000	1	0	0	0	Red
10.7225	1	0	1	0	Orange
10.7500	1	1	0	0	White

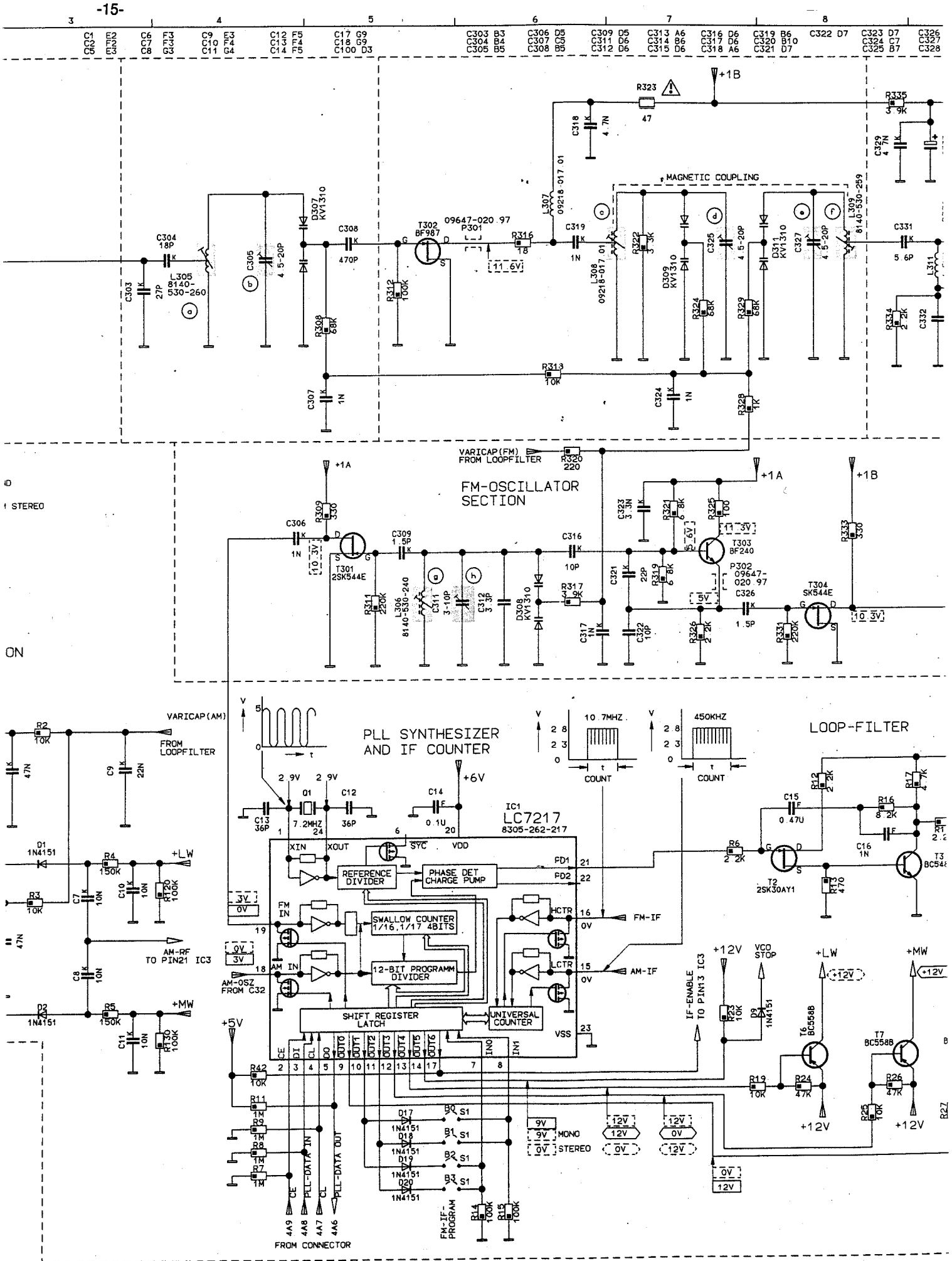
0 = jumper open 1 = jumper closed

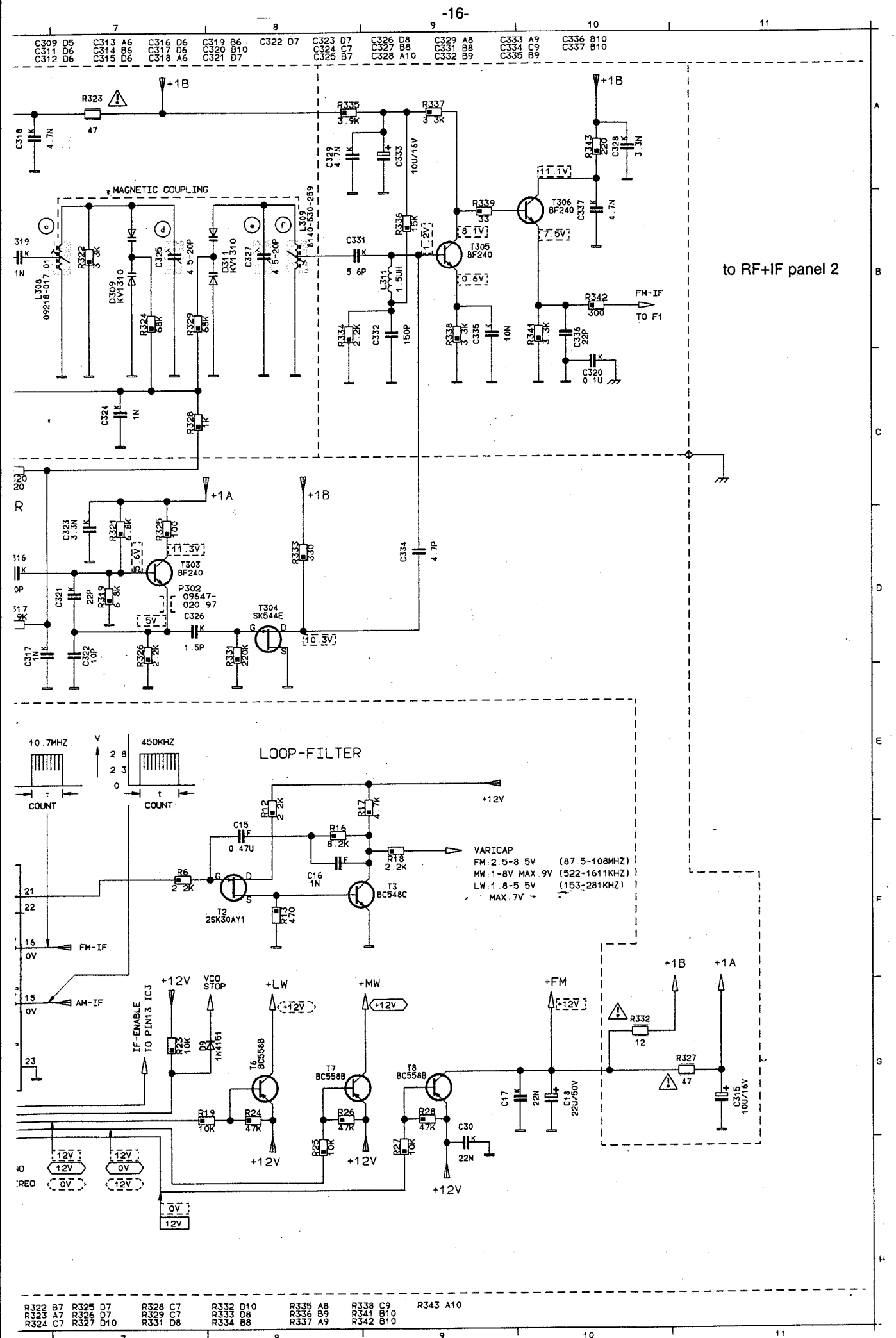




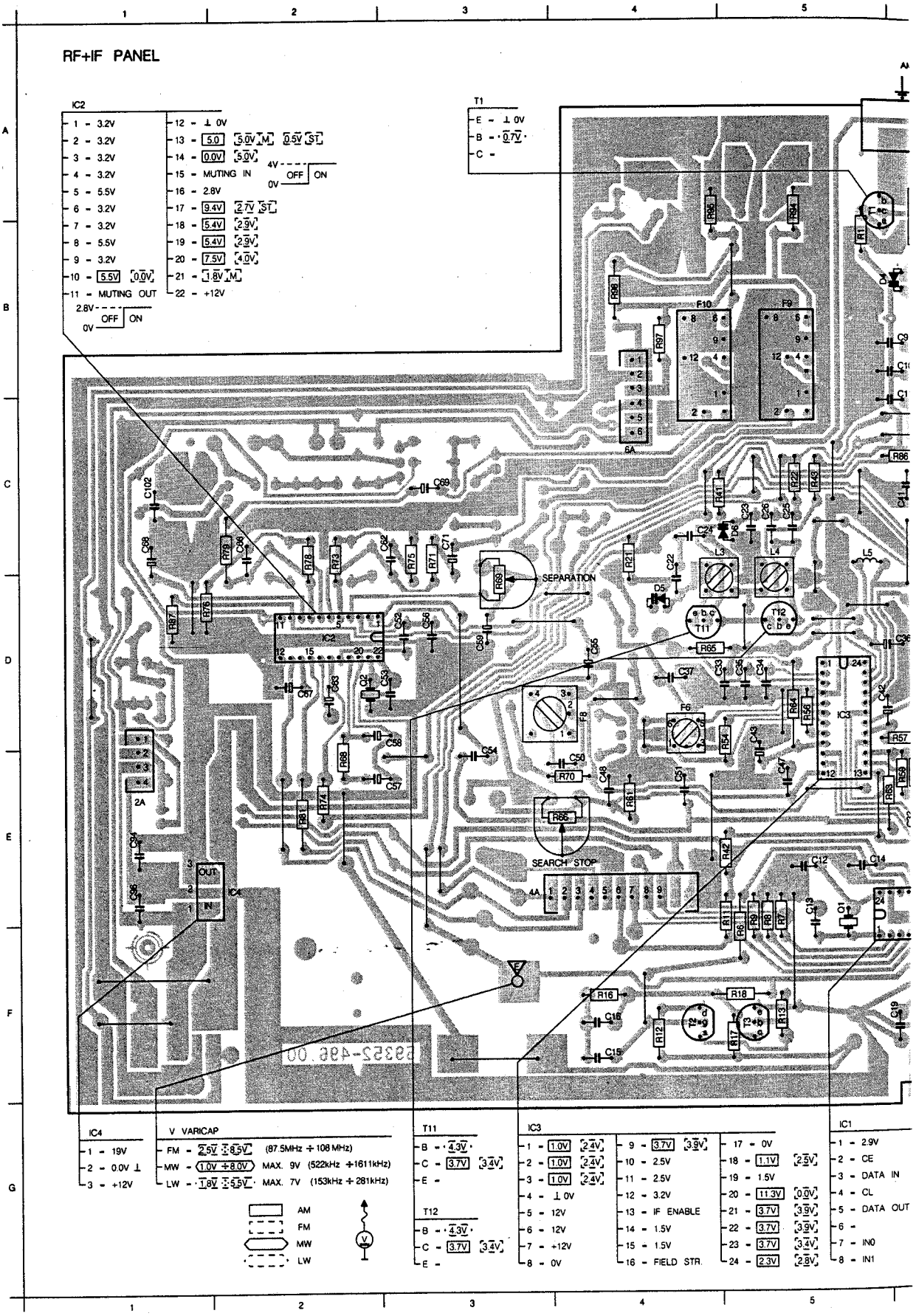
⚠ ABSOLUTELY NECESSARY FOR THE SAFETY OF THE SET. THESE COMPONENTS MEET THE SAFETY REQUIREMENTS ACCORDING TO VDE OR IEC. RESP AND MUST BE REPLACED BY PARTS OF SAME SPECIFICATION ONLY


RF+IF PANEL 1
FM ANTENNA SECTION
FM-OSCILLATOR SECTION
DC-VOLTAGES MEASURED AGAINST GROUND
WITHOUT ANTENNA SIGNAL
AND TUNED TO A DEAD SPOT,EXCEPT FM STEREO
AM
FM
MW
LW
FM STEREO
STEREO
AM ANTENNA SECTION
PLL SYNTHESIZER AND IF COUNTER
IC1 LC7217 8305-262-217
REFERENCE DIVIDER
PHASE DET CHARGE PUMP
SWALLOW COUNTER 1/16,1/17 4BITS
12-BIT PROGRAMM DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
VARICAP(AM)
FROM LOOPFILTER
VARICAP(FM)
FROM LOOPFILTER
AM-RF TO PIN21 IC3
AM-OSZ FROM C32
FROM CONNECTOR
PLL-DATA IN
PLL-DATA OUT
FM-IF-PROGRAM
MONO
STEREO
10.7MHZ
COUNT
T301 2SK544E
T302 BF987
T1 BC368
L306 8140-530-240
L305 8140-530-260
L2 19202-703.12
L1 19202-702.12
D307 KV1310
D308 KV1310
D1 1N4151
D2 1N4151
D4 SVC321SP
D3 SVC321SP
09647-020 97
P301
09218-017 01
L307 09218-017 01
L308 09218-017 01
BU-3
L1 F2
L2 E2
IC1 F5
Q1 F5
P301 B6
P302 D7
L6 D3
L305 B4
L306 D5
L307 B6
L308 B7
L309 B8
L311 B9
T1 F1
T2 F8
T6 G7
T7 G8
T8 G8
T301 C5
T302 B5
T303 D7
T304 D8
T305 B9
T306 B10
D1 F3
D2 G3
D3 E2
D4 F2
D9 F8
D17 G5
D18 H5
D19 H5
D20 H5
D303 B2
D307 B4
D308 D6
D309 B7
D311 B8
R1 F1
R2 E3
R3 F3
R4 F3
R5 G3
R6 F7
R7 F4
R8 H4
R9 H4
R11 G4
R12 F8
R13 F8
R14 H5
R15 H6
R16 F8
R17 E8
R18 F9
R19 G7
R23 G7
R24 G7
R25 G7
R26 G7
R27 G8
R28 G8
R42 G4
R130 G4
R308 C5
R309 C5
R311 D5
R312 B5
R313 A5
R314 B5
R315 A6
R316 B6
R317 D6
R318 C6
R319 D7
R320 D6
R321 D7
R322 B7
R323 A7
R324 C7

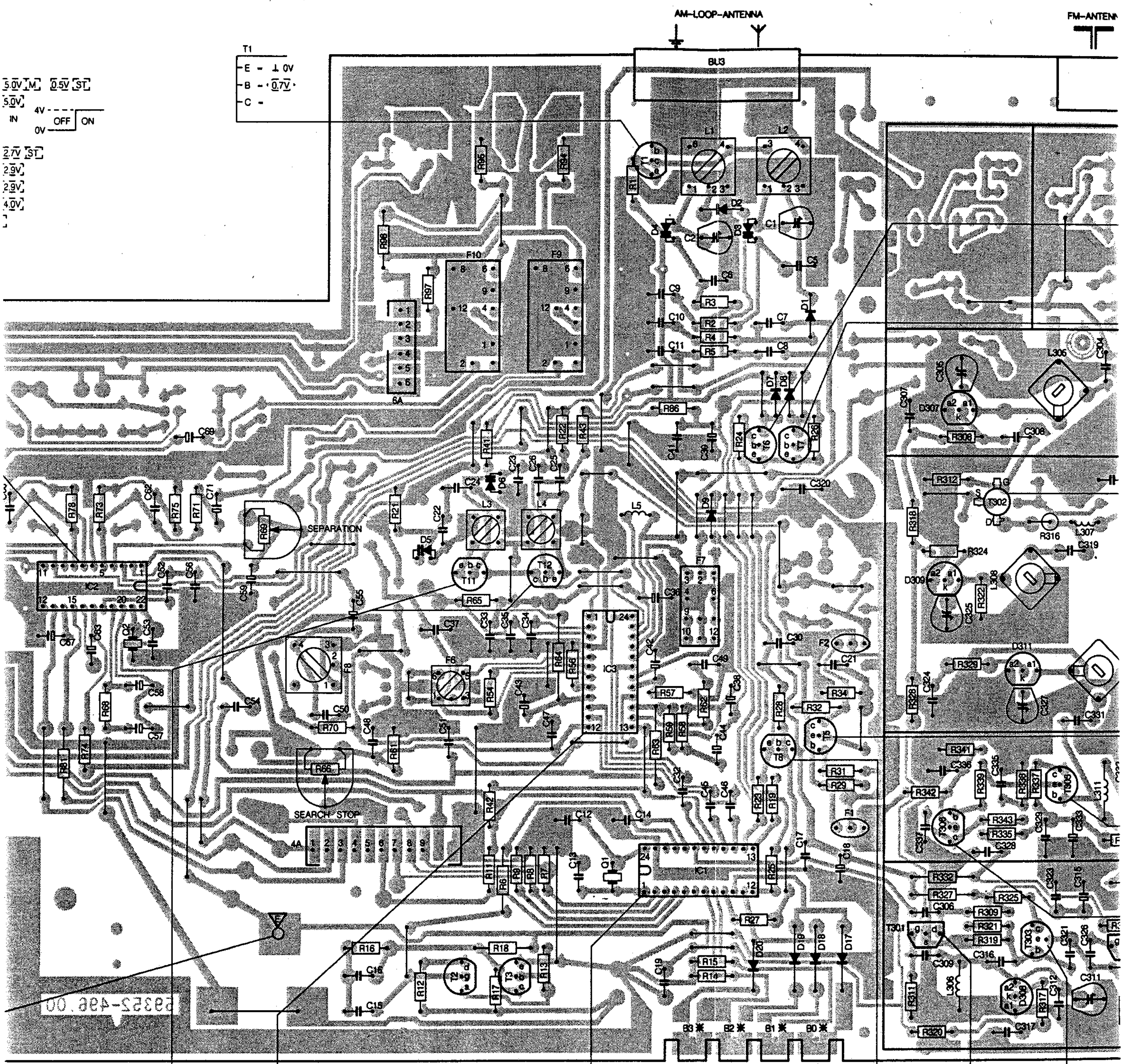

FM-OSCILLATOR SECTION
PLL SYNTHESIZER AND IF COUNTER
LOOP-FILTER
MAGNETIC COUPLING
VARICAP(FM) FROM LOOPFILTER
VARICAP(AM) FROM LOOPFILTER
IC1 LC7217 8305-262-217
REFERENCE DIVIDER
PHASE DET CHARGE PUMP
SWALLOW COUNTER 1/16,1/17 4BITS
12-BIT PROGRAMM DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
FM-IF
AM-IF
AM-RF TO PIN21 IC3
AM-OSZ FROM C32
IF-ENABLE TO PIN13 IC3
VCO STOP
FROM CONNECTOR
PLL-DATA IN
PLL-DATA OUT
FM-IF-PROGRAM
10.7MHZ
450KHZ
COUNT
STEREO
MONO
ON


C309 D5 C311 D6 C312 D6
C313 A6 C314 B6 C315 D6
C316 D6 C317 D6 C318 A6
C319 B6 C320 B10 C321 D7
C322 D7
C323 D7 C324 C7 C325 B7
C326 D8 C327 B8 C328 A10
C329 A8 C331 B8 C332 B9
C333 A9 C334 C9 C335 B9
C336 B10 C337 B10
+1B
R323
47
C318
4.7N
R335
3.9K
R337
3.3K
C329
4.7N
C333
10U/16V
R343
220
C328
3.3N
MAGNETIC COUPLING
L308
09218-017.01
R322
3.3K
D309
KV1310
R324
68K
C325
4.5-20P
D311
KV1310
R329
68K
C327
4.5-20P
L309
8140-530-259
C331
5.6P
L311
1.5UH
R336
15K
T305
BF240
R339
33
T306
BF240
C337
4.7N
R334
2.2K
C332
150P
R338
3.3K
C335
10N
R341
3.3K
C336
22P
R342
300
FM-IF
TO F1
C320
0.1U
C324
1N
R328
1K
to RF+IF panel 2
+1A
C323
3.3N
R321
6.8K
R325
100
T303
BF240
P302
09647-020.97
R319
6.8K
C321
22P
C326
1.5P
T304
SK544E
R333
330
C334
4.7P
C317
1N
C322
10P
R326
2.2K
R331
220K
10.7MHZ
450KHZ
COUNT
LOOP-FILTER
+12V
R12
2.2K
R17
4.7K
C15
0.47U
R16
8.2K
R18
2.2K
C16
1N
R6
2.2K
T2
2SK30AY1
R20
470
T3
BC548C
VARICAP
FM:2.5-8.5V (87.5-108MHZ)
MW:1-8V MAX.9V (522-1611KHZ)
LW:1.8-5.5V (153-281KHZ)
MAX.7V
FM-IF
AM-IF
IF-ENABLE TO PIN13 IC3
VCO STOP
R22
10K
D9
1N4151
+LW
+MW
+FM
T6
BC558B
T7
BC558B
T8
BC558B
R19
10K
R24
47K
R25
10K
R26
47K
R27
10K
R28
47K
C30
22N
C17
22N
C18
220/50V
R332
12
R327
47
C315
10U/16V
+1B
+1A
R322 B7 R325 D7 R328 C7 R332 D10 R335 A8 R338 C9 R343 A10
R323 A7 R326 D7 R329 C7 R333 D8 R336 B9 R341 B10
R324 C7 R327 D10 R331 D8 R334 B8 R337 A9 R342 B10

RF+IF PANEL


IC2
1 - 3.2V
2 - 3.2V
3 - 3.2V
4 - 3.2V
5 - 5.5V
6 - 3.2V
7 - 3.2V
8 - 5.5V
9 - 3.2V
10 - 5.5V [0.0V]
11 - MUTING OUT
2.8V
0V OFF ON
12 - ⊥ 0V
13 - 5.0 [5.0V M] [0.5V ST]
14 - 0.0V [5.0V]
15 - MUTING IN
4V
0V OFF ON
16 - 2.8V
17 - 9.4V [2.7V ST]
18 - 5.4V [2.9V]
19 - 5.4V [2.9V]
20 - 7.5V [4.0V]
21 - 1.8V M
22 - +12V
T1
E - ⊥ 0V
B - 0.7V
C -
SEPARATION
SEARCH STOP
IC4
1 - 19V
2 - 0.0V ⊥
3 - +12V
V VARICAP
FM - 2.5V ÷ 8.5V (87.5MHz ÷ 108 MHz)
MW - 1.0V ÷ 8.0V MAX. 9V (522kHz ÷ 1611kHz)
LW - 1.8V ÷ 5.5V MAX. 7V (153kHz ÷ 281kHz)
AM
FM
MW
LW
T11
B - 4.3V
C - 3.7V [3.4V]
E -
T12
B - 4.3V
C - 3.7V [3.4V]
E -
IC3
1 - 1.0V [2.4V]
2 - 1.0V [2.4V]
3 - 1.0V [2.4V]
4 - ⊥ 0V
5 - 12V
6 - 12V
7 - +12V
8 - 0V
9 - 3.7V [3.9V]
10 - 2.5V
11 - 2.5V
12 - 3.2V
13 - IF ENABLE
14 - 1.5V
15 - 1.5V
16 - FIELD STR.
17 - 0V
18 - 1.1V [2.5V]
19 - 1.5V
20 - 11.3V [0.0V]
21 - 3.7V [3.9V]
22 - 3.7V [3.9V]
23 - 3.7V [3.4V]
24 - 2.3V [2.8V]
IC1
1 - 2.9V
2 - CE
3 - DATA IN
4 - CL
5 - DATA OUT
6 -
7 - IN0
8 - IN1

2 | 3 | 4 | 5 | 6 | 7 | 8



* SEE TABLE

(87.5MHz ÷ 108 MHz)
MAX. 9V (522kHz ÷ 1611kHz)
MAX. 7V (153kHz ÷ 281kHz)

AM
FM
MW
LW

T11

B	4.3V	
C	3.7V	3.4V
E		

T12

B	4.3V	
C	3.7V	3.4V
E		

IC3

1	1.0V	2.4V
2	1.0V	2.4V
3	1.0V	2.4V
4	⊥ 0V	
5	12V	
6	12V	
7	+12V	
8	0V	
9	3.7V	3.9V
10	2.5V	
11	2.5V	
12	3.2V	
13	IF ENABLE	
14	1.5V	
15	1.5V	
16	FIELD STR.	
17	0V	
18	1.1V	2.5V
19	1.5V	
20	11.3V	0.0V
21	3.7V	3.9V
22	3.7V	3.9V
23	3.7V	3.4V
24	2.3V	2.8V

IC1

1	2.9V	
2	CE	
3	DATA IN	
4	CL	
5	DATA OUT	
6		
7	IN0	
8	IN1	
9	$\overline{OUT\ 0}$	
10	$\overline{OUT\ 1}$	
11	$\overline{OUT\ 2}$	
12	$\overline{OUT\ 3}$	
13	$\overline{OUT\ 4}$	
14	$\overline{OUT\ 5}$	
15	0V	
16	0V	
17	$\overline{OUT\ 6}$	
18	0.0V	3.0V
19	3.0V	0.0V
20	+6V	
21		
22		
23	⊥ 0V	
24	2.9V	

T8

E	+12V
B	0.0V FM
C	+12V FM

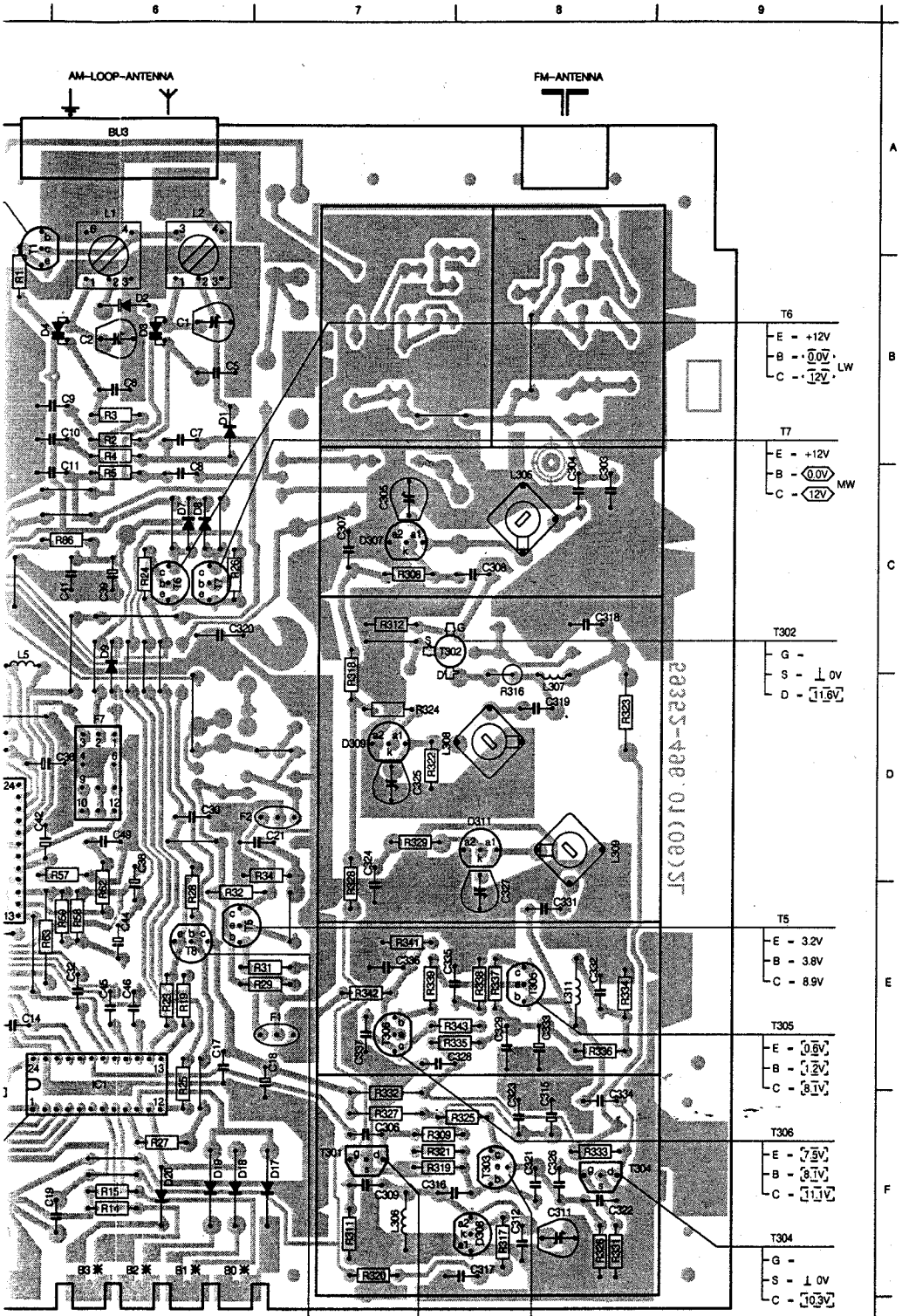
T301

G	
S	⊥ 0V
D	10.3V

T303

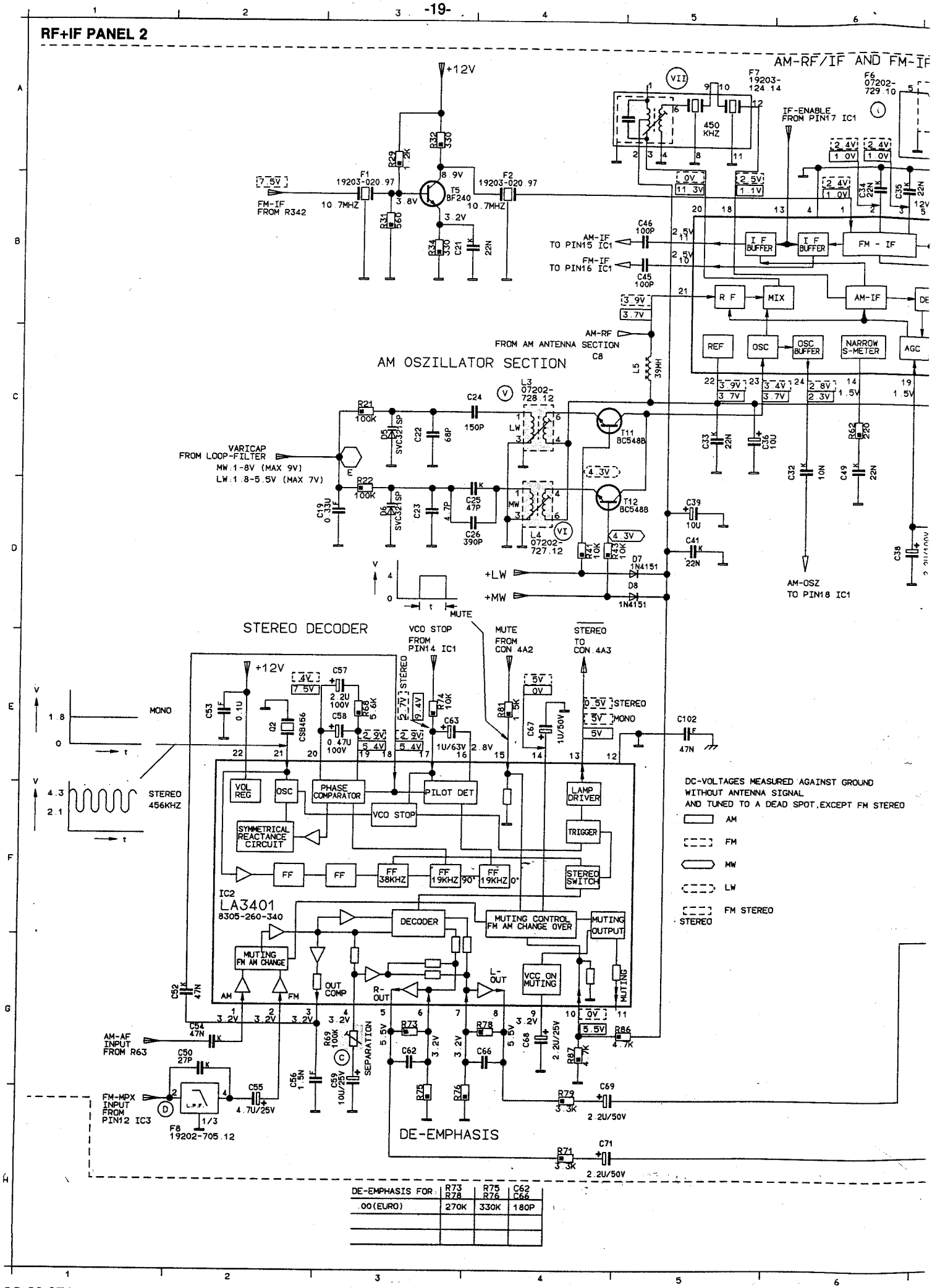
E	5.0V
B	5.6V
C	11.3V

2 | 3 | 4 | 5 | 6 | 7 | 8

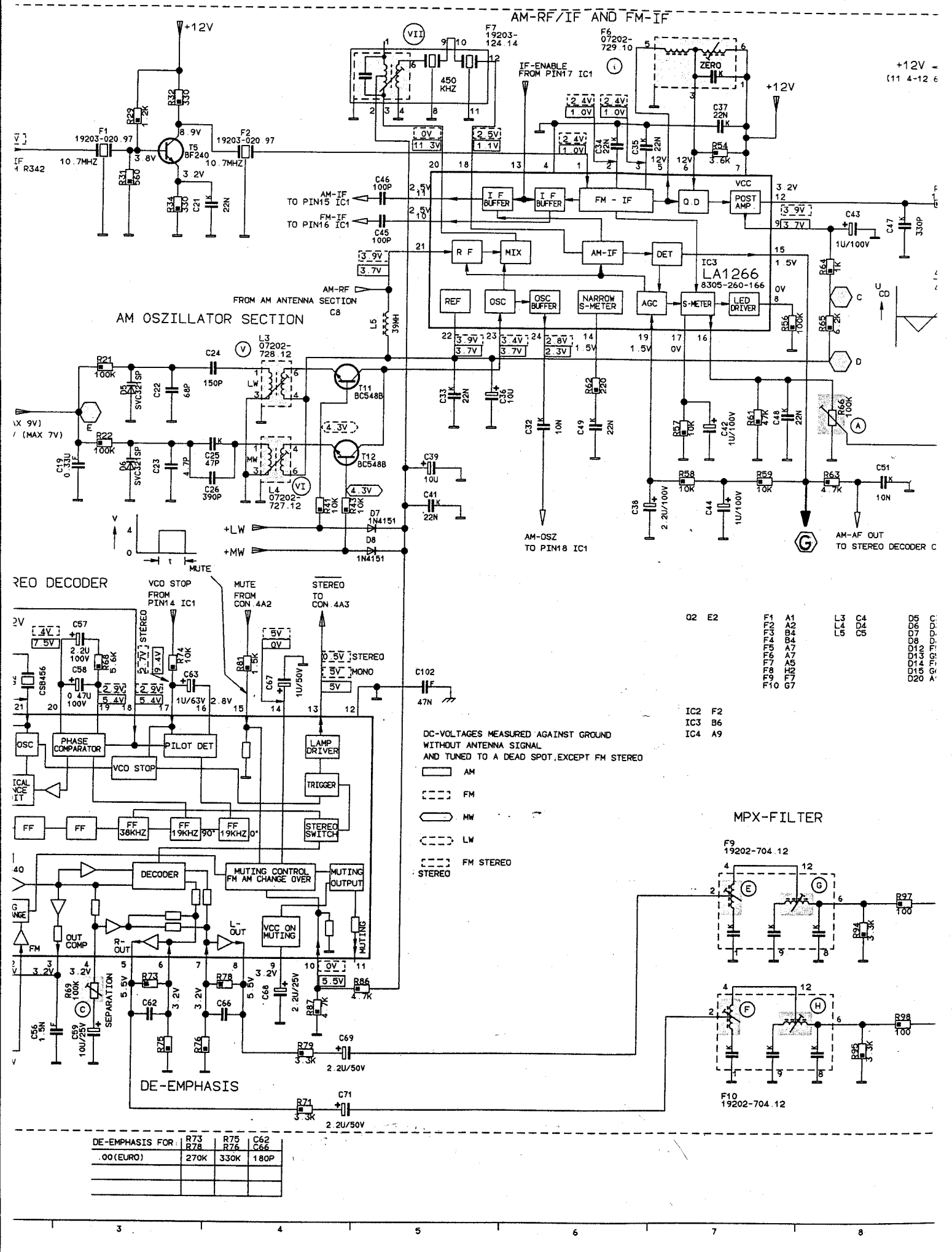


	2A	E 1	F10	B 4	T301	F 7
	4A	E 3	F2	D 7	T302	C 6
	6A	C 4	F6	D 4	T303	F 8
	B0	F 6	F7	D 6	T304	F 8
	B1	F 6	F8	D 4	T305	E 8
	B2	F 6	F9	B 5	T306	E 7
	B3	F 6	I C1	E 6	T5	E 6
	BU3	A 6	I C2	D 2	T6	C 6
	C1	B 6	I C3	D 5	T7	C 6
A	C10	B 6	I C4	E 2	T8	E 6
	C102	C 1	L1	A 6		
	C103	A 4	L2	A 6		
	C11	C 6	L3	C 5		
	C12	E 5	L305	C 8		
	C13	E 5	L306	F 7		
	C14	E 5	L307	D 8		
	C15	F 4	L308	D 7		
	C16	F 4	L309	D 8		
	C17	E 6	L311	E 8		
	C18	E 7	L4	C 5		
	C19	F 6	L5	C 5		
	C2	B 6	Q1	E 5		
	C21	D 7	Q2	D 2		
	C22	C 4	R1	B 5		
	C23	C 5	R11	E 5		
	C24	C 4	R12	F 4		
B	C25	C 5	R13	F 5		
	C26	C 5	R14	F 6		
	C30	D 6	R15	F 6		
	C303	C 8	R16	F 4		
	C304	C 8	R17	F 5		
	C305	C 7	R18	F 5		
	C306	F 7	R19	E 6		
	C307	C 7	R2	B 6		
	C308	C 8	R21	C 4		
	C309	F 7	R22	C 5		
	C311	F 8	R23	E 6		
	C312	F 8	R24	C 6		
	C315	F 8	R25	E 6		
	C316	F 7	R26	C 6		
	C317	F 8	R27	F 6		
	C318	C 8	R28	E 6		
C	C319	D 8	R29	E 7		
	C32	E 6	R3	B 6		
	C320	C 6	R308	C 7		
	C321	F 8	R309	F 7		
	C322	F 8	R31	E 7		
	C323	F 8	R311	F 7		
	C324	D 7	R312	C 7		
	C325	D 7	R316	D 8		
	C326	F 8	R317	F 8		
	C327	E 8	R318	C 7		
	C328	E 8	R319	F 7		
	C329	E 8	R32	E 6		
	C33	D 4	R320	F 7		
	C331	E 8	R321	F 7		
	C332	E 8	R322	D 7		
	C333	E 8	R323	D 8		
	C334	F 8	R324	D 7		
D	C335	E 7	R325	F 8		
	C336	E 7	R326	F 8		
	C337	E 7	R327	F 7		
	C34	D 5	R328	D 7		
	C35	D 5	R329	D 7		
	C36	D 6	R331	F 8		
	C37	D 4	R332	F 7		
	C38	D 6	R333	F 8		
	C39	C 6	R334	E 8		
	C41	C 6	R335	E 8		
	C42	D 5	R336	E 8		
	C43	D 5	R337	E 8		
	C44	E 6	R338	E 8		
	C45	E 6	R339	E 7		
	C46	E 6	R34	D 7		
	C47	E 5	R341	E 7		
E	C48	E 4	R342	E 7		
	C49	D 6	R343	E 8		
	C5	B 6	R4	B 6		
	C50	E 4	R41	C 5		
	C51	E 4	R42	E 5		
	C52	D 3	R43	C 5		
	C53	D 3	R5	C 6		
	C54	E 3	R54	D 5		
	C55	D 4	R56	D 5		
	C56	D 3	R57	D 6		
	C57	E 3	R58	E 6		
	C58	D 3	R59	E 6		
	C59	D 3	R6	F 5		
	C6	B 6	R61	E 4		
	C62	C 3	R62	E 6		
	C63	D 2	R63	E 5		
	C66	C 2	R64	D 5		
F	C67	D 2	R65	D 4		
	C68	C 1	R66	E 4		
	C69	C 3	R68	E 2		
	C7	B 6	R69	D 3		
	C71	C 3	R7	E 5		
	C8	C 6	R70	E 4		
	C9	B 6	R71	C 3		
	C94	E 1	R73	C 2		
	C96	E 1	R74	E 2		
	D1	B 6	R75	C 3		
	D17	F 7	R76	D 1		
	D18	F 6	R78	C 2		
	D19	F 6	R79	C 2		
	D2	B 6	R8	E 5		
	D20	F 6	R80	C 1		
	D3	B 6	R81	E 2		
	D305	B 8	R86	C 6		
G	D307	C 7	R87	D 1		
	D308	F 8	R9	E 5		
	D309	D 7	R94	A 5		
	D311	D 8	R95	A 4		
	D4	B 5	R97	B 4		
	D5	D 4	R98	B 4		
	D6	C 5	T1	A 5		
	D7	C 6	T11	D 4		
	D8	C 6	T12	D 5		
	D9	C 6	T2	F 4		
	F1	E 7	T3	F 5		

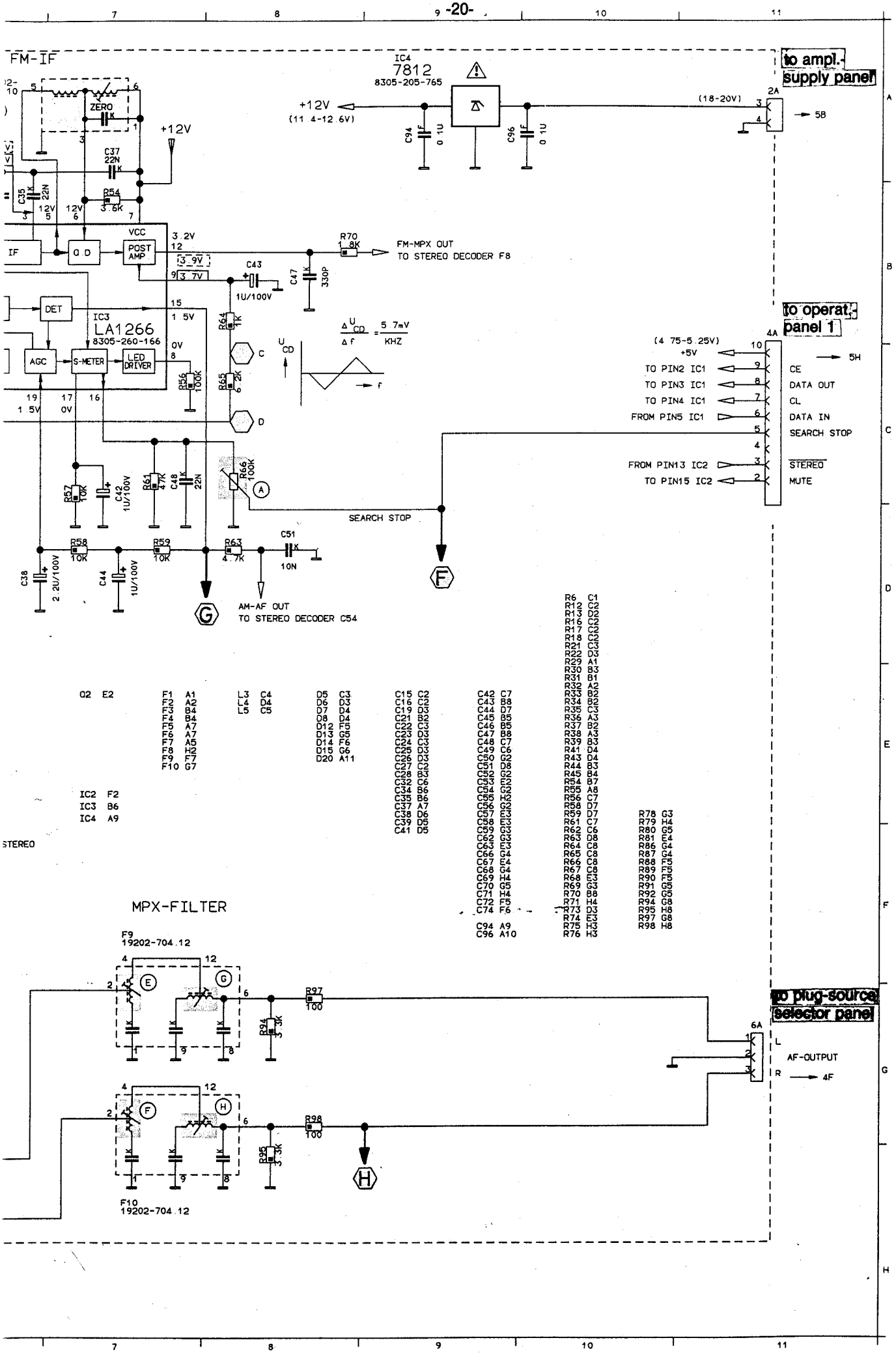
RF+IF PANEL 2

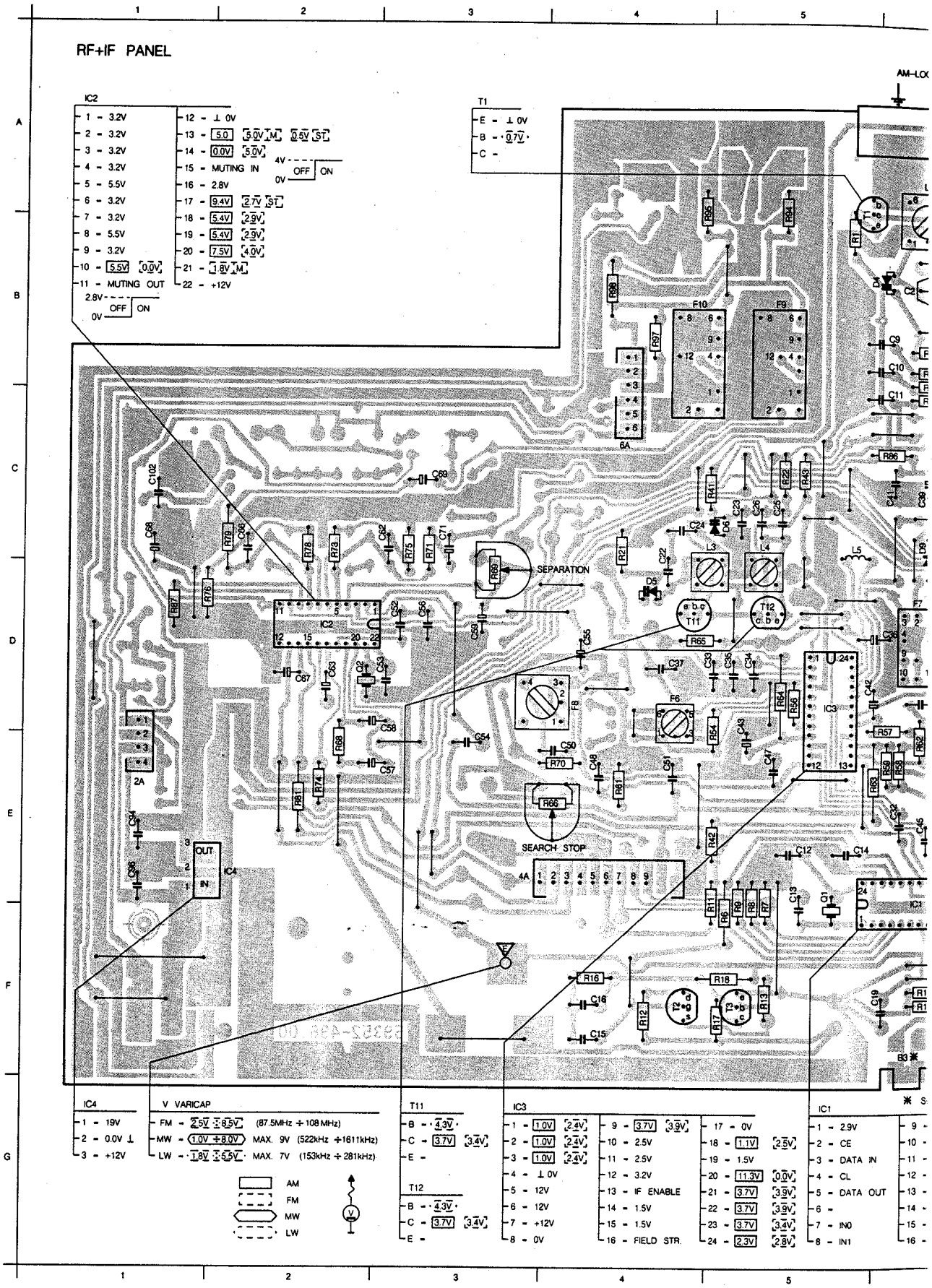


DE-EMPHASIS FOR	R73 R78	R75 R76	C62 C66
.00(EURO)	270K	330K	180P



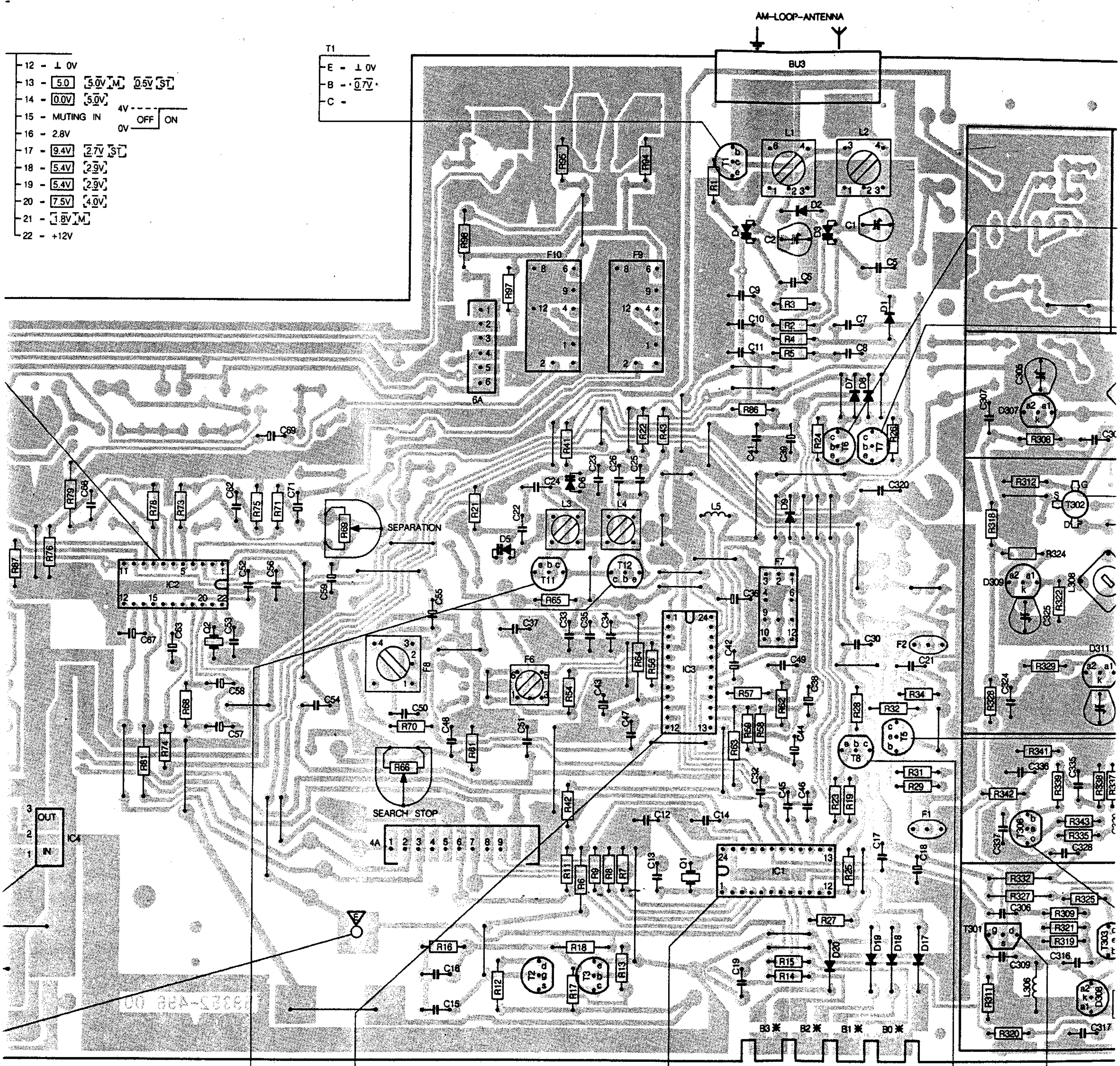
DE-EMPHASIS FOR:	R73 R78	R75 R76	C62 C66
.00(EURO)	270K	330K	180P


FM-IF
IC4
7812
8305-205-765
+12V
(11.4-12.6V)
C94
0.1U
C96
0.1U
(18-20V)
2A
5B
to ampl.-supply panel
ZERO
C37
22N
R54
3.6K
C35
22N
12V
+12V
VCC
IF
Q.D
POST AMP
3.2V
3.9V
3.7V
R70
1.8K
FM-MPX OUT
TO STEREO DECODER F8
C43
1U/100V
C47
330P
DET
IC3
LA1266
8305-260-166
1.5V
0V
AGC
S-METER
LED DRIVER
R64
1K
R65
6.2K
R56
100K
C
D
U CD
Δ U CD / Δ f = 5.7mV / KHZ
f
to operat.-panel 1
4A
(4.75-5.25V)
+5V
5H
TO PIN2 IC1
TO PIN3 IC1
TO PIN4 IC1
FROM PIN5 IC1
CE
DATA OUT
CL
DATA IN
SEARCH STOP
FROM PIN13 IC2
TO PIN15 IC2
STEREO
MUTE
R57
10K
C42
1U/100V
R61
47K
C48
22N
R66
100K
A
SEARCH STOP
R58
10K
R59
10K
R63
4.7K
C51
10N
C38
2.2U/100V
C44
1U/100V
F
G
AM-AF OUT
TO STEREO DECODER C54
Q2 E2
F1 A1
F2 A2
F3 B4
F4 B4
F5 A7
F6 A7
F7 A5
F8 H2
F9 F7
F10 G7
L3 C4
L4 D4
L5 C5
D5 C3
D6 D3
D7 D4
D8 D4
D12 F5
D13 G5
D14 F6
D15 G6
D20 A11
C15 C2
C16 C2
C19 D3
C21 B2
C22 C3
C23 D3
C24 C3
C25 D3
C26 D3
C27 C2
C28 B3
C32 C6
C34 B6
C35 B6
C37 A7
C38 D6
C39 D5
C41 D5
C42 C7
C43 B8
C44 D7
C45 B5
C46 B5
C47 B8
C48 C7
C49 C6
C50 G2
C51 D8
C52 G2
C53 E2
C54 G2
C55 H2
C56 G2
C57 E3
C58 E3
C59 G3
C62 G3
C63 E3
C66 G4
C67 E4
C68 G4
C69 H4
C70 G5
C71 H4
C72 F5
C74 F6
C94 A9
C96 A10
R6 C1
R12 C2
R13 D2
R16 C2
R17 C2
R18 C2
R21 C3
R22 D3
R29 A1
R30 B3
R31 B1
R32 A2
R33 B2
R34 B2
R35 C3
R36 A3
R37 B2
R38 A3
R39 B3
R41 D4
R43 D4
R44 B3
R45 B4
R54 B7
R55 A8
R56 C7
R58 D7
R59 D7
R61 C7
R62 C6
R63 D8
R64 C8
R65 C8
R66 C8
R67 C8
R68 E3
R69 G3
R70 B8
R71 H4
R73 D3
R74 E3
R75 H3
R76 H3
R78 G3
R79 H4
R80 G5
R81 E4
R86 G4
R87 G4
R88 F5
R89 F5
R90 F5
R91 G5
R92 G5
R94 G8
R95 H8
R97 G8
R98 H8
IC2 F2
IC3 B6
IC4 A9
STEREO
MPX-FILTER
F9
19202-704.12
E
G
R97
100
R94
3.3K
to plug-source selector panel
6A
L
AF-OUTPUT
R
4F
F
H
R98
100
R95
3.3K
H
F10
19202-704.12


RF+IF PANEL
IC2
1 - 3.2V
2 - 3.2V
3 - 3.2V
4 - 3.2V
5 - 5.5V
6 - 3.2V
7 - 3.2V
8 - 5.5V
9 - 3.2V
10 - 5.5V 0.0V
11 - MUTING OUT
2.8V OFF ON 0V
12 - ⊥ 0V
13 - 5.0 3.0V M 0.5V ST
14 - 0.0V 5.0V
15 - MUTING IN
4V OFF ON 0V
16 - 2.8V
17 - 9.4V 2.7V ST
18 - 5.4V 2.9V
19 - 5.4V 2.9V
20 - 7.5V 4.0V
21 - 1.8V M
22 - +12V
T1
E - ⊥ 0V
B - 0.7V
C -
SEPARATION
SEARCH STOP
IC4
1 - 19V
2 - 0.0V ⊥
3 - +12V
V VARICAP
FM - 2.5V 8.5V (87.5MHz ÷ 108MHz)
MW - 1.0V ÷ 8.0V MAX. 9V (522kHz ÷ 1611kHz)
LW - 1.8V ÷ 5.5V MAX. 7V (153kHz ÷ 281kHz)
AM
FM
MW
LW
T11
B - 4.3V
C - 3.7V 3.4V
E -
T12
B - 4.3V
C - 3.7V 3.4V
E -
IC3
1 - 1.0V 2.4V
2 - 1.0V 2.4V
3 - 1.0V 2.4V
4 - ⊥ 0V
5 - 12V
6 - 12V
7 - +12V
8 - 0V
9 - 3.7V 3.9V
10 - 2.5V
11 - 2.5V
12 - 3.2V
13 - IF ENABLE
14 - 1.5V
15 - 1.5V
16 - FIELD STR.
17 - 0V
18 - 1.1V 2.5V
19 - 1.5V
20 - 11.3V 0.0V
21 - 3.7V 3.9V
22 - 3.7V 3.9V
23 - 3.7V 3.4V
24 - 2.3V 2.8V
IC1
1 - 2.9V
2 - CE
3 - DATA IN
4 - CL
5 - DATA OUT
6 -
7 - IN0
8 - IN1
9 -
10 -
11 -
12 -
13 -
14 -
15 -
16 -

- 12 - ⊥ 0V
- 13 - [5.0] [5.0V] [M] [0.5V] [ST]
- 14 - [0.0V] [5.0V]
- 15 - MUTING IN (4V / 0V: OFF | ON)
- 16 - 2.8V
- 17 - [9.4V] [2.7V] [ST]
- 18 - [5.4V] [2.9V]
- 19 - [5.4V] [2.9V]
- 20 - [7.5V] [4.0V]
- 21 - [1.8V] [M]
- 22 - +12V

T1
- E - ⊥ 0V
- B - 0.7V
- C -



✳ SEE TABLE

V VARICAP
- FM - 2.5V ÷ 8.5V (87.5MHz ÷ 108 MHz)
- MW - 1.0V ÷ 8.0V MAX. 9V (522kHz ÷ 1611kHz)
- LW - 1.8V ÷ 5.5V MAX. 7V (153kHz ÷ 281kHz)

AM / FM / MW / LW

T11
- B - 4.3V
- C - [3.7V] [3.4V]
- E -

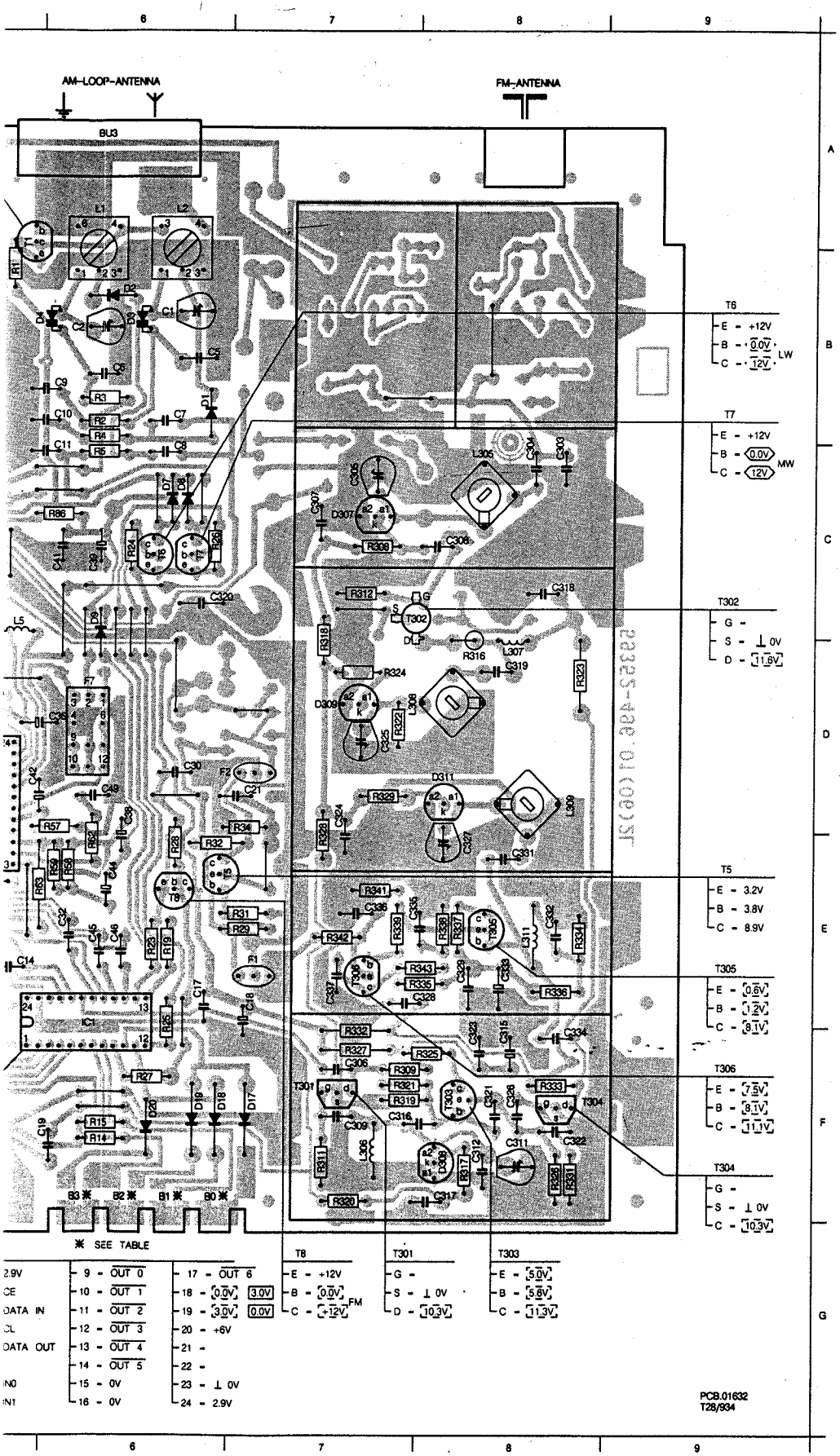
T12
- B - 4.3V
- C - [3.7V] [3.4V]
- E -

IC3
- 1 - [1.0V] [2.4V]
- 2 - [1.0V] [2.4V]
- 3 - [1.0V] [2.4V]
- 4 - ⊥ 0V
- 5 - 12V
- 6 - 12V
- 7 - +12V
- 8 - 0V
- 9 - [3.7V] [3.9V]
- 10 - 2.5V
- 11 - 2.5V
- 12 - 3.2V
- 13 - IF ENABLE
- 14 - 1.5V
- 15 - 1.5V
- 16 - FIELD STR.
- 17 - 0V
- 18 - [1.1V] [2.5V]
- 19 - 1.5V
- 20 - [11.3V] [0.0V]
- 21 - [3.7V] [3.9V]
- 22 - [3.7V] [3.9V]
- 23 - [3.7V] [3.4V]
- 24 - [2.3V] [2.8V]

IC1
- 1 - 2.9V
- 2 - CE
- 3 - DATA IN
- 4 - CL
- 5 - DATA OUT
- 6 -
- 7 - IN0
- 8 - IN1
- 9 - $\overline{OUT\ 0}$
- 10 - $\overline{OUT\ 1}$
- 11 - $\overline{OUT\ 2}$
- 12 - $\overline{OUT\ 3}$
- 13 - $\overline{OUT\ 4}$
- 14 - $\overline{OUT\ 5}$
- 15 - 0V
- 16 - 0V
- 17 - $\overline{OUT\ 6}$
- 18 - [0.0V] [3.0V]
- 19 - [3.0V] [0.0V]
- 20 - +6V
- 21 -
- 22 -
- 23 - ⊥ 0V
- 24 - 2.9V

T8
- E - +12V
- B - [0.0V] FM
- C - [+12V]

T301
- G -
- S - ⊥ 0V
- D - [10.3V]



	2A	E 1	F10	B 4	T301	F 7
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	6A	C 4	F6	D 4	T303	F 8
	B0	F 6	F7	D 6	T304	F 8
	B1	F 6	F8	D 4	T305	E 8
	B2	F 6	F9	B 5	T306	E 7
	B3	F 6	I C1	E 6	T5	E 6
	BU3	A 6	I C2	D 2	T6	C 6
	C1	B 6	I C3	D 5	T7	C 6
A	C10	B 6	I C4	E 2	T8	E 6
	C102	C 1	L1	A 6		
	C103	A 4	L2	A 6		
	C11	C 6	L3	C 5		
	C12	E 5	L305	C 8		
	C13	E 5	L306	F 7		
	C14	E 5	L307	D 8		
	C15	F 4	L308	D 7		
	C16	F 4	L309	D 8		
	C17	E 6	L311	E 8		
	C18	E 7	L4	C 5		
	C19	F 6	L5	C 5		
	C2	B 6	Q1	E 5		
	C21	D 7	Q2	D 2		
	C22	C 4	R1	B 5		
	C23	C 5	R11	E 5		
B	C24	C 4	R12	F 4		
	C25	C 5	R13	F 5		
	C26	C 5	R14	F 6		
	C30	D 6	R15	F 6		
	C303	C 8	R16	F 4		
	C304	C 8	R17	F 5		
	C305	C 7	R18	F 5		
	C306	F 7	R19	E 6		
	C307	C 7	R2	B 6		
	C308	C 8	R21	C 4		
	C309	F 7	R22	C 5		
	C311	F 8	R23	E 6		
	C312	F 8	R24	C 6		
	C315	F 8	R25	E 6		
	C316	F 7	R26	C 6		
	C317	F 8	R27	F 6		
	C318	C 8	R28	E 6		
C	C319	D 8	R29	E 7		
	C32	E 6	R3	B 6		
	C320	C 6	R308	C 7		
	C321	F 8	R309	F 7		
	C322	F 8	R31	E 7		
	C323	F 8	R311	F 7		
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	C333	E 8	R323	D 8		
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	C337	E 7	R327	F 7		
	C34	D 5	R328	D 7		
	C35	D 5	R329	D 7		
	C36	D 6	R331	F 8		
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	C45	E 6	R339	E 7		
	C46	E 6	R34	D 7		
	C47	E 5	R341	E 7		
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	C49	D 6	R343	E 8		
	C5	B 6	R4	B 6		
	C50	E 4	R41	C 5		
	C51	E 4	R42	E 5		
	C52	D 3	R43	C 5		
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	C59	D 3	R6	F 5		
	C6	B 6	R61	E 4		
	C62	C 3	R62	E 6		
	C63	D 2	R63	E 5		
	C66	C 2	R64	D 5		
F	C67	D 2	R65	D 4		
	C68	C 1	R66	E 4		
	C69	C 3	R68	E 2		
	C7	B 6	R69	D 3		
	C71	C 3	R7	E 5		
	C8	C 6	R70	E 4		
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	D18	F 6	R78	C 2		
	D19	F 6	R79	C 2		
	D2	B 6	R8	E 5		
	D20	F 6	R80	C 1		
	D3	B 6	R81	E 2		
	D305	B 8	R86	C 6		
G	D307	C 7	R87	D 1		
	D308	F 8	R9	E 5		
	D309	D 7	R94	A 5		
	D311	D 8	R95	A 4		
	D4	B 5	R97	B 4		
	D5	D 4	R98	B 4		
	D6	C 5	T1	A 5		
	D7	C 6	T11	D 4		
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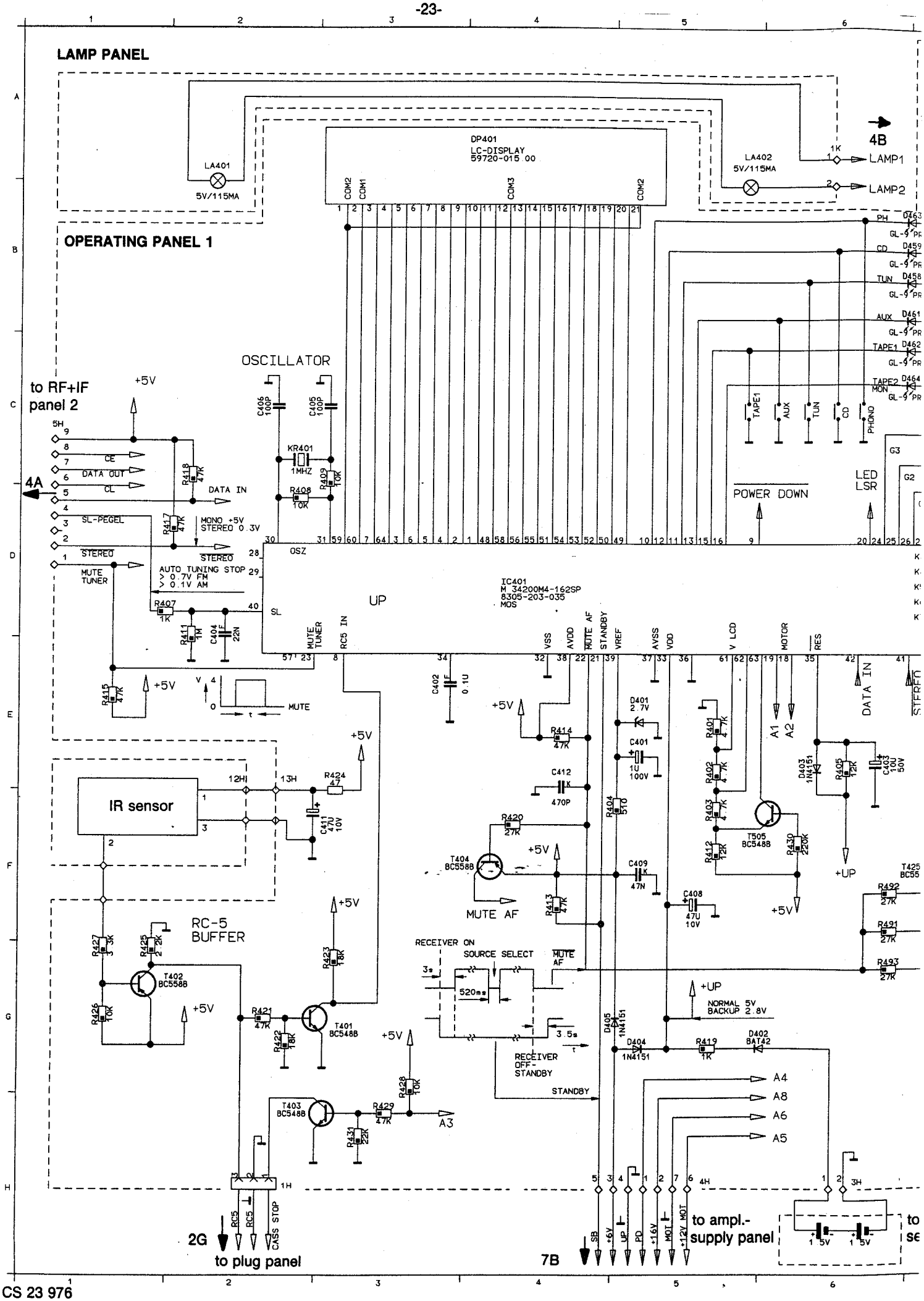
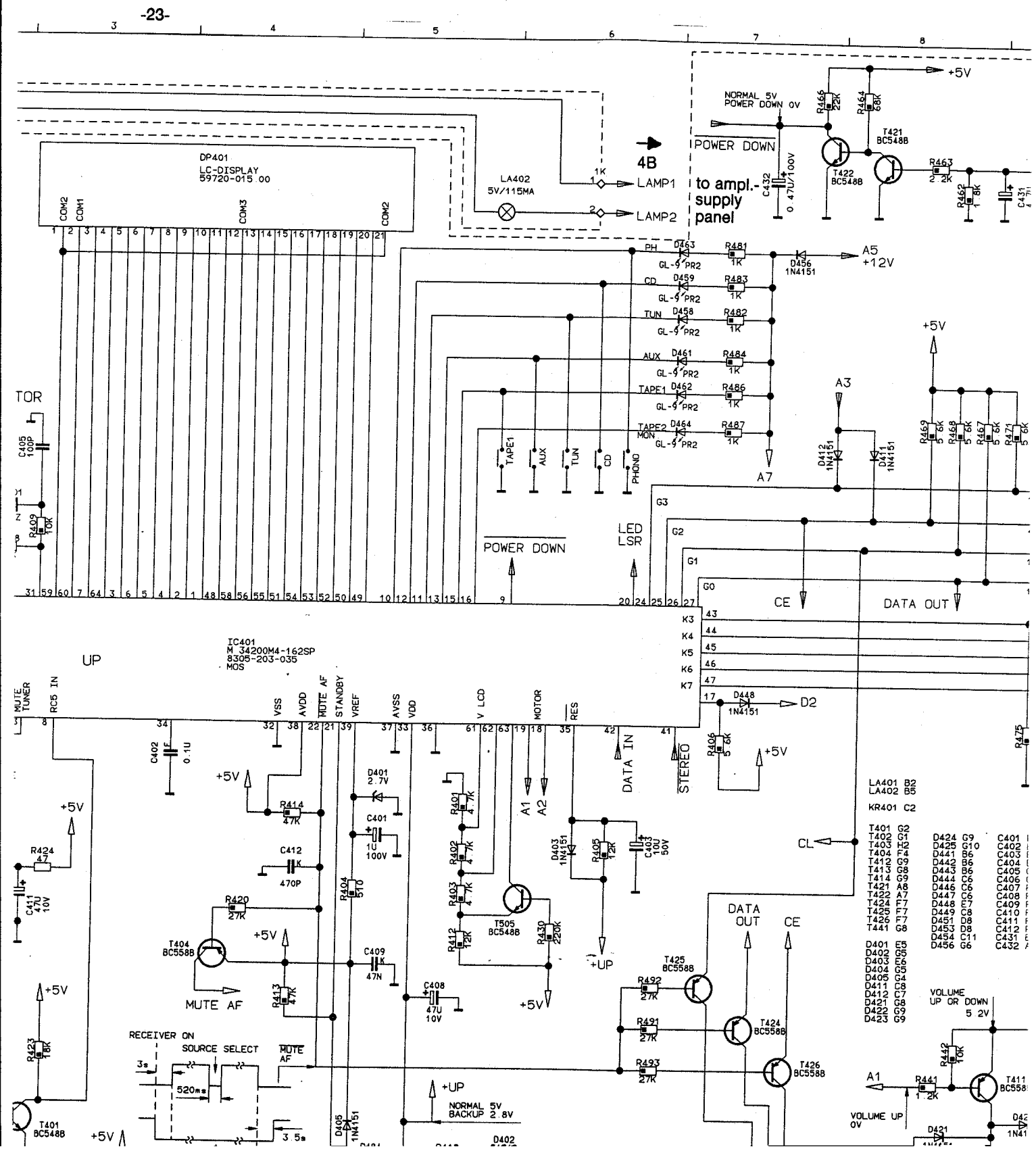
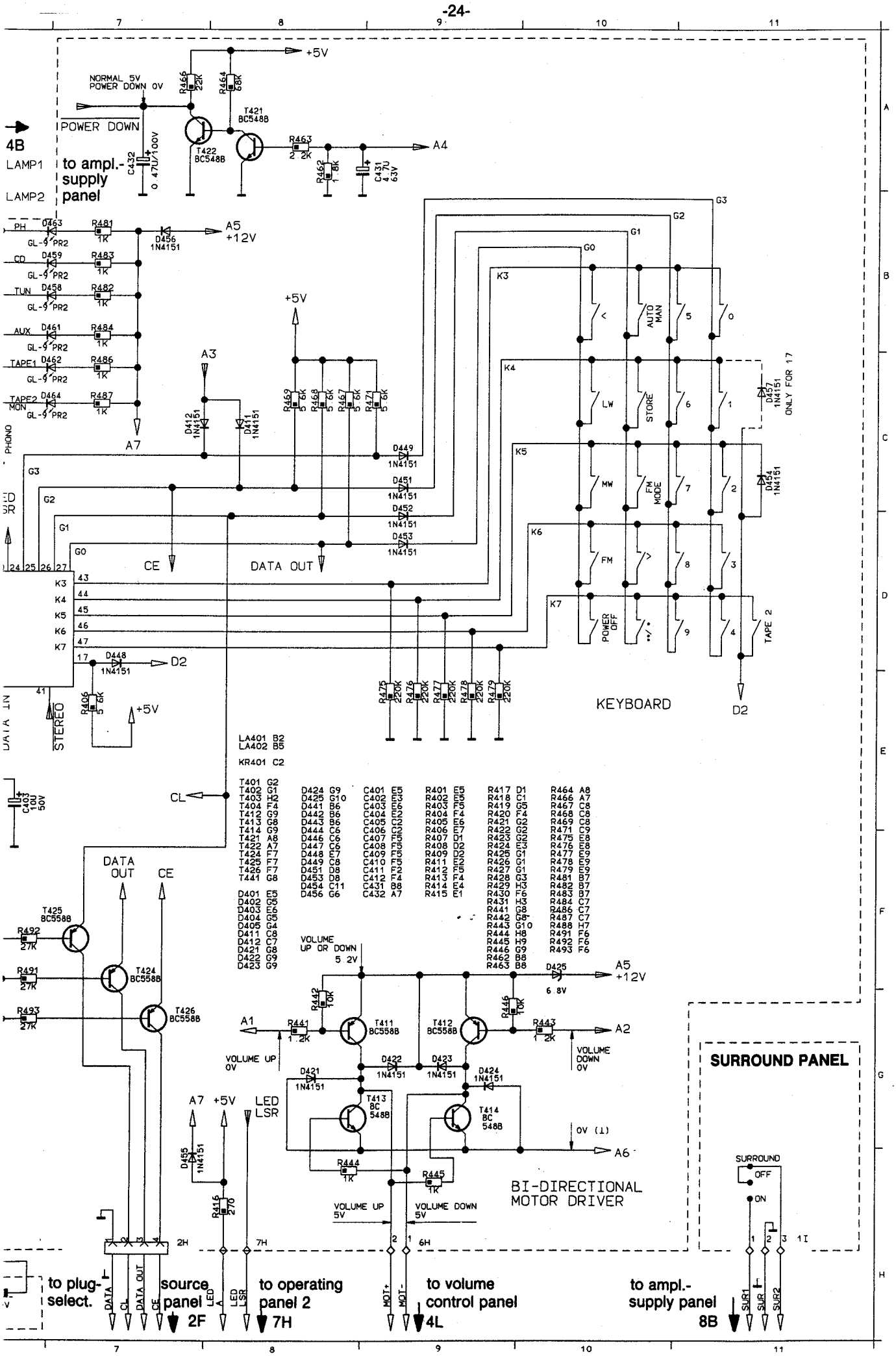
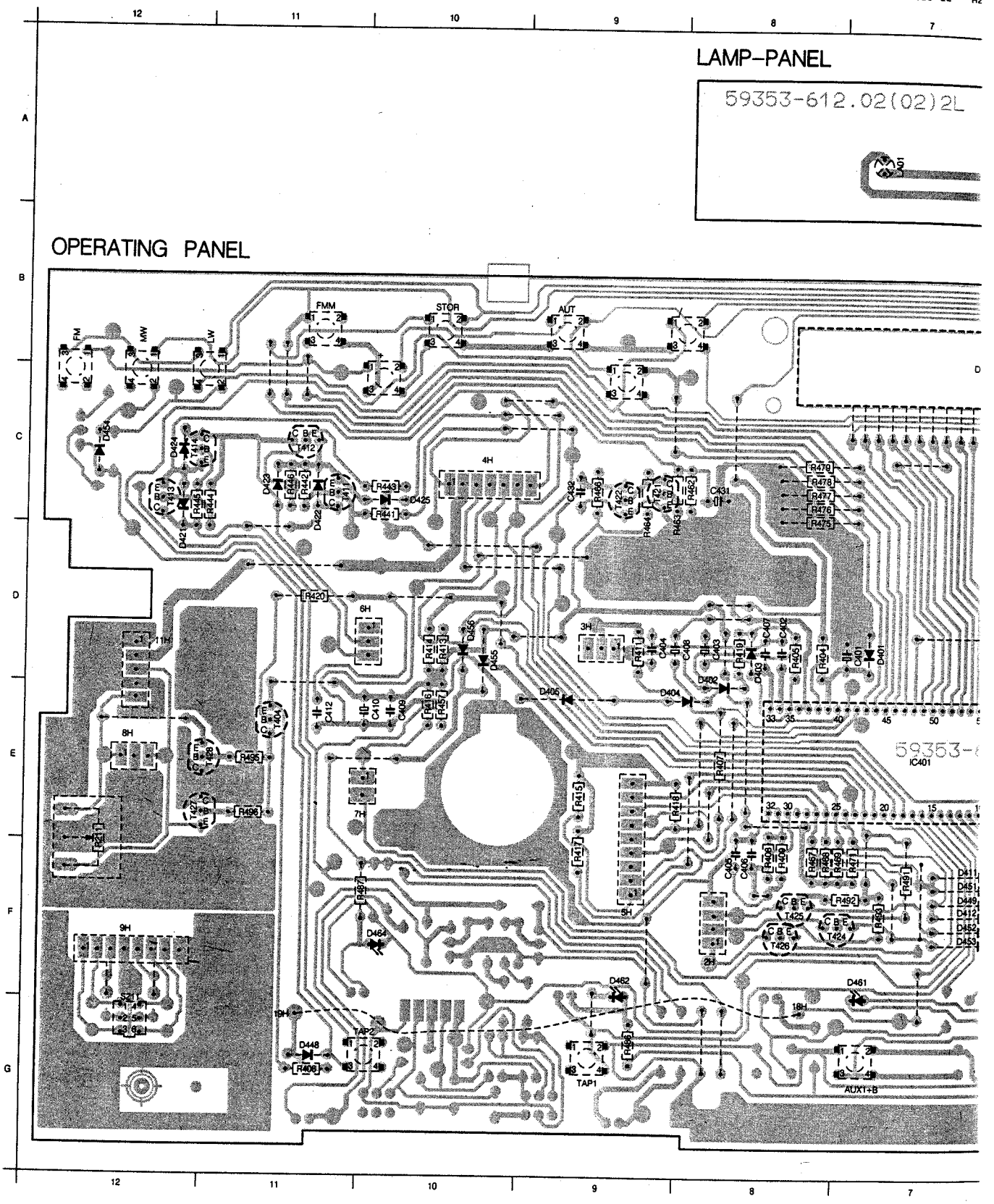
	F1	E 7	T3	F 5		


LAMP PANEL
OPERATING PANEL 1
LA401
5V/115MA
DP401
LC-DISPLAY
59720-015.00
LA402
5V/115MA
4B
LAMP1
LAMP2
OSCILLATOR
to RF+IF
panel 2
4A
DATA OUT
DATA IN
SL-PEGEL
STEREO
MUTE
TUNER
AUTO TUNING STOP
> 0.7V FM
> 0.1V AM
MONO +5V
STEREO 0.3V
IC401
M 34200M4-162SP
8305-203-035
MOS
UP
POWER DOWN
LED
LSR
IR sensor
RC-5
BUFFER
RECEIVER ON
SOURCE SELECT
MUTE
AF
RECEIVER
OFF-
STANDBY
STANDBY
NORMAL 5V
BACKUP 2.8V
2G
to plug panel
7B
to ampl.-
supply panel
CASS STOP


DP401
LC-DISPLAY
59720-015.00
LA402
5V/115MA
LAMP1
LAMP2
4B
to ampl.-supply panel
NORMAL 5V
POWER DOWN 0V
POWER DOWN
+5V
A5
+12V
A7
A3
TAPE1
AUX
TUN
CD
PHOND
LED LSR
CE
DATA OUT
IC401
M 34200M4-162SP
8305-203-035
MOS
UP
MUTE TUNER
RC5 IN
VSS
AVDD
MUTE AF
STANDBY
VREF
AVSS
VDD
V LCD
MOTOR
RES
DATA IN
STEREO
D2
CL
T505
BC548B
T404
BC558B
MUTE AF
RECEIVER ON
SOURCE SELECT
520ms
3s
3.5s
+UP
NORMAL 5V
BACKUP 2.8V
T401
BC548B
T425
BC558B
T424
BC558B
T426
BC558B
VOLUME
UP OR DOWN
5.2V
VOLUME UP
0V
T411
BC558
LA401 B2
LA402 B5
KR401 C2
T401 G2
T402 G1
T403 H2
T404 F4
T412 G9
T413 G8
T414 G9
T421 A8
T422 A7
T424 F7
T425 F7
T426 F7
T441 G8
D401 E5
D402 G5
D403 E6
D404 G5
D405 G4
D411 C8
D412 C7
D421 G8
D422 G9
D423 G9
D424 G9
D425 G10
D441 B6
D442 B6
D443 B6
D444 C6
D446 C6
D447 C6
D448 E7
D449 C8
D451 D8
D453 D8
D454 C11
D456 G6
C401
C402
C403
C404
C405
C406
C407
C408
C409
C410
C411
C412
C431
C432


+5V
NORMAL 5V
POWER DOWN 0V
POWER DOWN
4B
LAMP1
LAMP2
to ampl.-supply panel
T421 BC548B
T422 BC548B
A4
A5 +12V
A3
A7
CE
DATA OUT
CL
D2
STEREO
KEYBOARD
AUTO MAN
STORE
LW
MW
FM MODE
FM
POWER OFF
TAPE 2
ONLY FOR 17
LA401 B2
LA402 B5
KR401 C2
VOLUME UP OR DOWN
VOLUME UP 0V
VOLUME DOWN 0V
BI-DIRECTIONAL MOTOR DRIVER
LED LSR
SURROUND PANEL
SURROUND
OFF
ON
to plug-select.
source panel 2F
to operating panel 2 7H
to volume control panel 4L
to ampl.-supply panel 8B

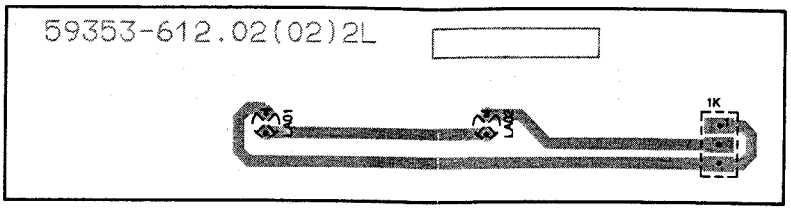
+	B11	05	B5	13H	B2	5H	F9	C222	F1	C231	F2	C241	D3	C404	D9	C412	E11	D405	D6	D425	C10	D455	D10	D464	F11	MW	B12	R2
-	B9	06	C2	15H	E1	6H	D11	C223	D2	C232	E4	C242	D4	C405	F8	C431	C8	D405	E9	D445	F8	D456	D10	DP401	B7	POWER	F1	R2
/	B9	07	C3	1H	C3	7H	E11	C224	F2	C233	F4	C243	E2	C406	F8	C432	C9	D411	F7	D448	G11	D458	F4	FM	B12	R211	E12	R2
00	C5	08	C4	1I	G3	8H	E12	C225	D2	C234	E4	C244	E2	C407	D8	CD+B	G6	D412	F7	D449	F7	D458	C12	FMM	B11	R221	E1	R2
01	B2	09	C4	1K	A5	9H	F12	C226	F2	C235	F4	C246	E4	C408	D8	D401	D7	D421	D12	D451	F7	D459	F6	I C401	E7	R222	E1	R2
02	B3	10H	D4	2H	F8	AUT	B9	C227	E3	C236	E3	C401	D7	C409	E10	D402	D8	D422	C11	D452	F7	D461	F7	LA01	A7	R223	E1	R2
03	B4	11H	D12	3H	D9	AUX1+	G7	C228	E3	C237	E4	C402	D8	C410	E10	D403	D8	D423	C11	D453	F7	D462	F9	LA02	A6	R224	E1	R2
04	B4	12H	B1	4H	C10	C221	E1	C229	E3	C238	E3	C403	D8	C411	C2	D404	E9	D424	C12	D454	C12	D463	F3	LW	B11	R225	E2	R2



5H	F9	C222	F1	C231	F2	C241	D3	C404	D9	C412	E11	D405	D6	D425	C10	D455	D10	D464	F11	MW	B12	R226	E2	R235	F2	R244	E4	R254	E2	R406	G11	R415
6H	D11	C223	D2	C232	E4	C242	D4	C405	F8	C431	C8	D405	E9	D445	F8	D456	D10	DP401	B7	POWER	F1	R227	E2	R236	E3	R245	E4	R255	E2	R407	E8	R416
7H	E11	C224	F2	C233	F4	C243	E2	C406	F8	C432	C9	D411	F7	D448	G11	D458	F4	FM	B12	R211	E12	R228	E2	R237	F2	R247	E3	R256	E2	R408	F8	R417
8H	E12	C225	D2	C234	E4	C244	E2	C407	D8	CD+B	G6	D412	F7	D449	F7	D458	C12	FMM	B11	R221	E1	R229	D2	R238	E4	R248	D3	R401	C6	R409	F8	R418
9H	F12	C226	F2	C235	F4	C246	E4	C408	D8	D401	D7	D421	D12	D451	F7	D459	F6	I C401	E7	R222	E1	R231	F2	R239	F4	R249	E3	R402	D6	R411	D9	R419
AUT	B9	C227	E3	C236	E3	C401	D7	C409	E10	D402	D8	D422	C11	D452	F7	D461	F7	LA01	A7	R223	E1	R232	D2	R241	E4	R251	E4	R403	D6	R412	C6	R420
AUX1+	G7	C228	E3	C237	E4	C402	D8	C410	E10	D403	D8	D423	C11	D453	F7	D462	F9	LA02	A6	R224	E1	R233	E2	R242	F4	R252	E3	R404	D8	R413	D10	R421
0	C221	E1	C229	E3	C238	E3	C403	D8	C411	C2	D404	E9	D424	C12	D454	C12	D463	F3	LW	B11	R225	E2	R234	E2	R243	E4	R253	F4	R405	D8	R414	D10	R422

11 | 10 | 9 | 8 | 7 | 6 | 5

LAMP-PANEL



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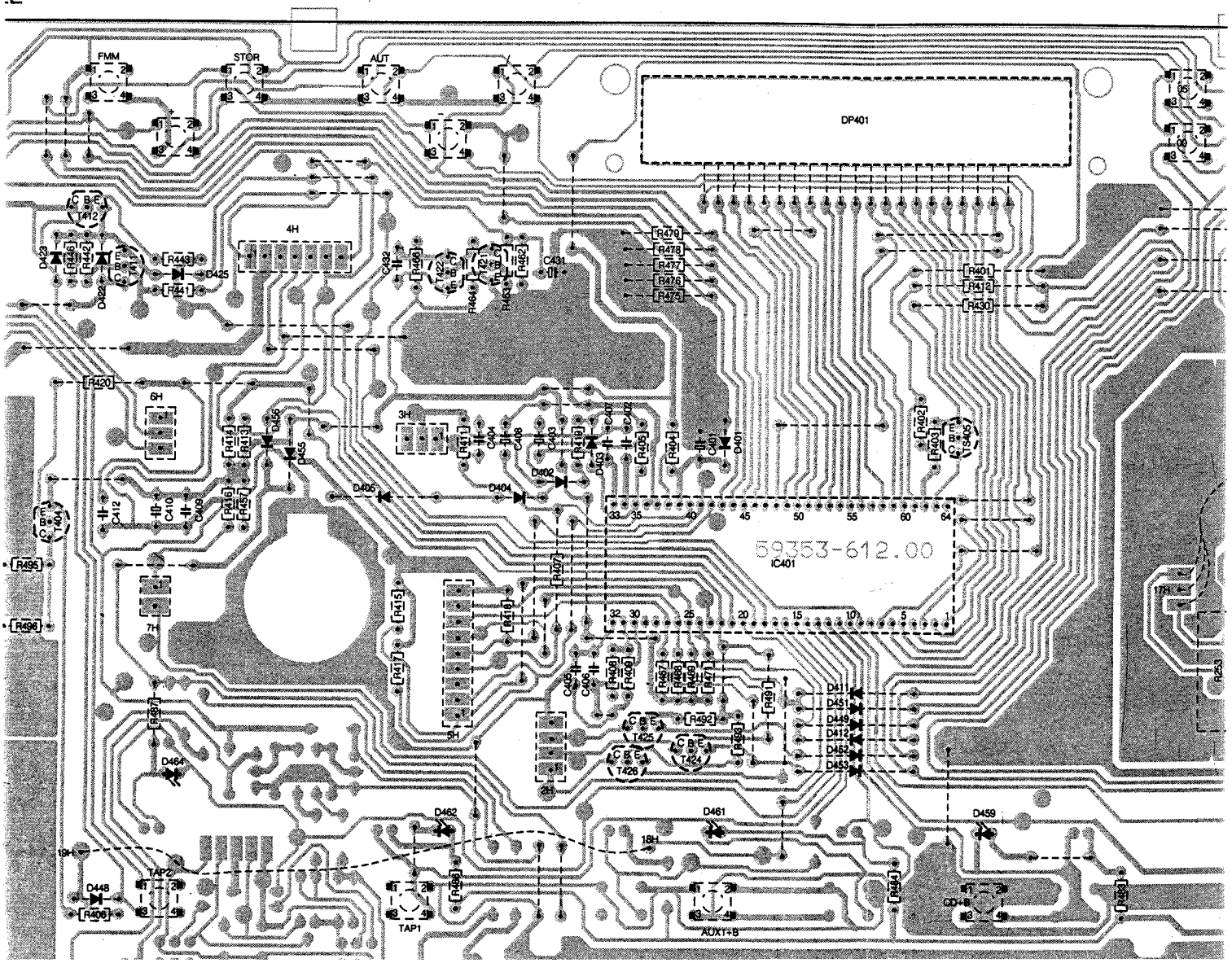

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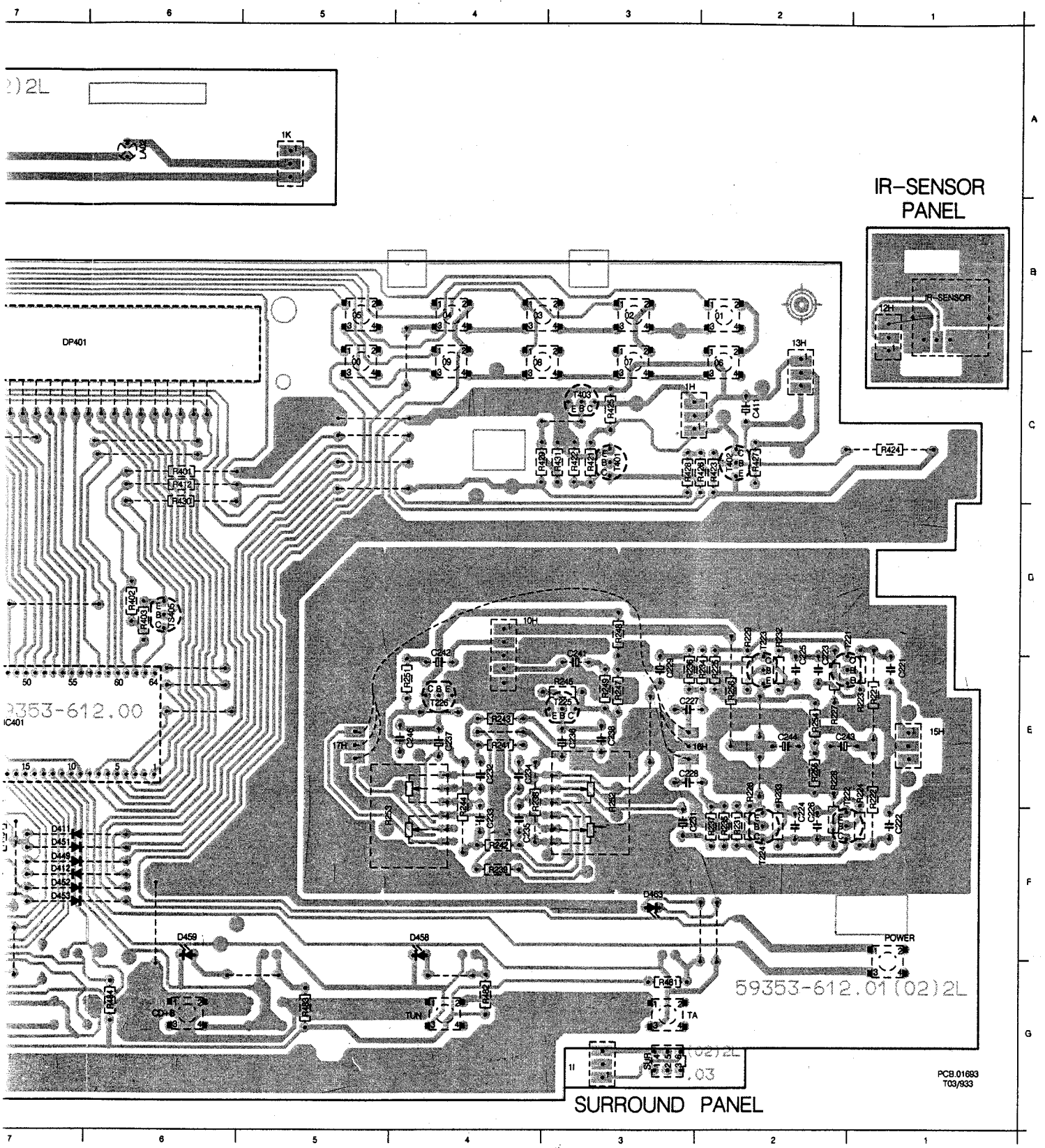
WER F1	R227 E2	R236 E3	R245 E4	R255 E2	R407 E8	R416 E10	R424 C1	R441 C11	R463 C8	R476 C8	R486 G9	STOR B10	T401 C3	T421 C9	TAP1 G9
11 E12	R228 E2	R237 F2	R247 E3	R256 E2	R408 F8	R417 F9	R425 C3	R442 C11	R464 C9	R477 C8	R487 F10	SUR G3	T402 C2	T422 C9	TAP2 G11
21 E1	R229 D2	R238 E4	R248 D3	R401 C6	R409 F8	R418 E8	R426 C2	R443 C11	R466 C9	R478 C8	R491 F7	T221 D1	T403 C3	T424 F8	TUN G4
22 E1	R231 F2	R239 F4	R249 E3	R402 D6	R411 D9	R419 D8	R427 C2	R444 C11	R467 F8	R479 C8	R492 F8	T222 E1	T404 E11	T425 F8	
23 E1	R232 D2	R241 E4	R251 E4	R403 D6	R412 C6	R420 D11	R428 C3	R445 C12	R468 F8	R481 G3	R493 F7	T223 D2	T411 C11	T426 F8	
24 E1	R233 E2	R242 F4	R252 E3	R404 D8	R413 D10	R421 C3	R429 C3	R446 C11	R469 F7	R482 G4	R495 E11	T224 F2	T412 C11	T427 E12	
25 E2	R234 E2	R243 E4	R253 F4	R405 D8	R414 D10	R422 C3	R430 C6	R457 E10	R471 F7	R483 G5	R496 E11	T225 E4	T413 C12	T428 E11	



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-	A9	09	A4	2H	E8	7H	D10	C227	C3	C241	C3	C407	B8	C804	F1	C816	F1	C828	G1	C903	H11	D405	C6	D451	D7	D463	D3	LW	A11	R228	D2
/	A8	10H	C4	2L	G11	8H	C12	C228	D3	C242	C4	C408	C8	C805	G4	C817	H1	C829	G1	C904	G11	D411	D7	D452	D7	D464	D10	MW	A12	R229	C2
00	A5	11H	C12	3F	H3	9H	D12	C229	C3	C243	C2	C409	C10	C806	G2	C818	H1	C831	H6	C905	G12	D412	D7	D453	D7	D851	H10	POWER	E1	R231	D2
01	A2	13H	A2	3H	B9	AUT	A9	C231	D2	C244	C2	C410	C10	C807	G4	C819	F5	C832	G1	C906	F12	D421	B11	D454	A12	DP401	A7	R211	D12	R232	C2
02	A3	15H	C1	3L	G11	AUX1+	E7	C232	D4	C246	C4	C411	A2	C808	H2	C821	G1	C833	H5	C907	G11	D422	B11	D455	C9	FM	A12	R221	C1	R233	D2
03	A4	1G	H9	4F	F2	C221	C1	C233	D4	C401	C7	C412	C10	C809	H2	C822	G6	C834	F1	CD+B	E6	D423	B11	D456	B10	FMM	A11	R222	D1	R234	C2
04	A4	1H	A3	4H	A10	C222	D1	C234	D4	C402	B8	C431	B8	C811	G3	C823	G1	C835	H1	D401	C7	D424	A11	D458	A12	I C401	C7	R223	C1	R235	D2
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07	A3	2F	G5	5H	D9	C225	C2	C237	C4	C405	D8	C802	G6	C814	F2	C826	H1	C901	G11	D404	C9	D448	E11	D461	E7	L901	H11	R226	D2	R238	D3
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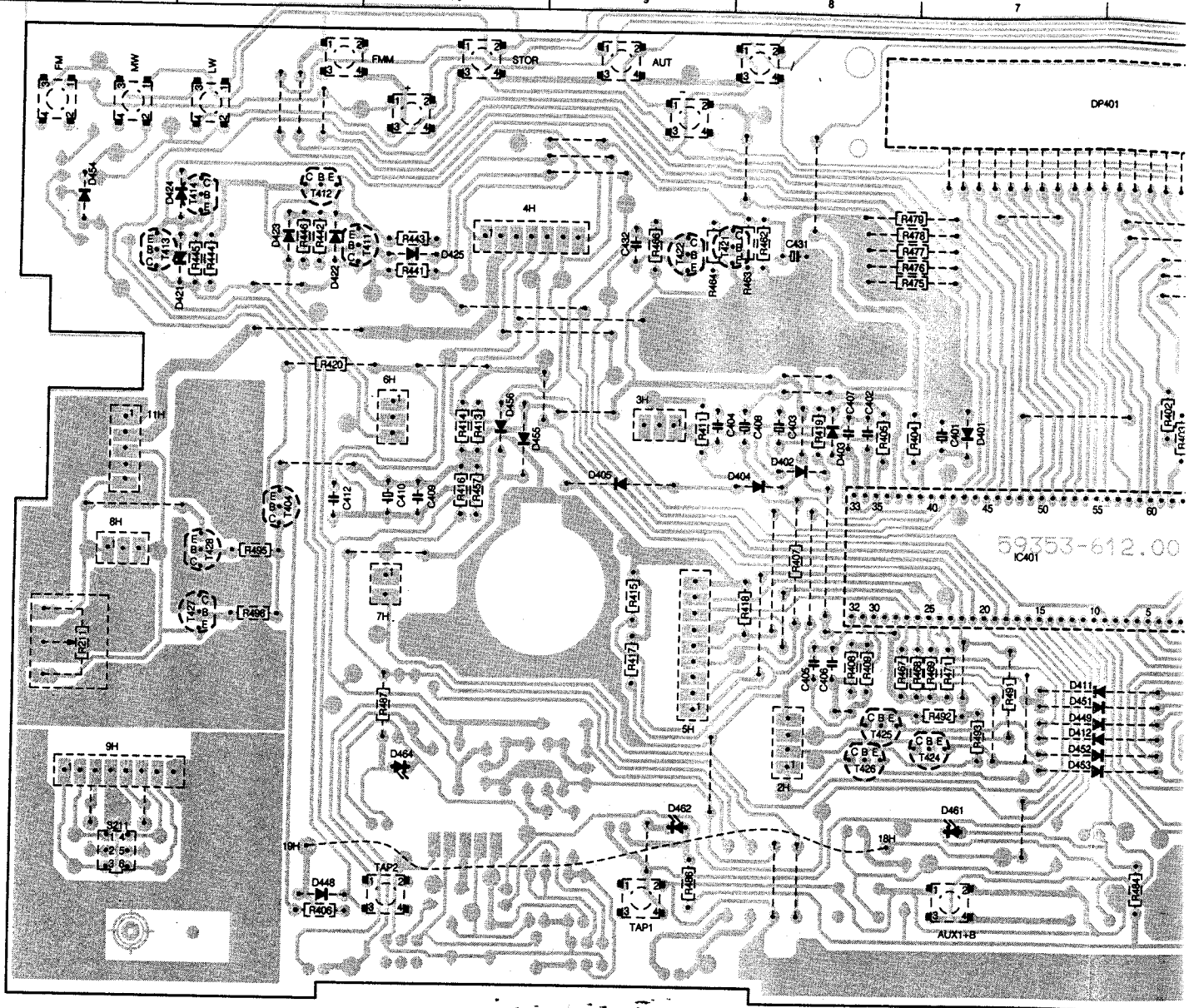
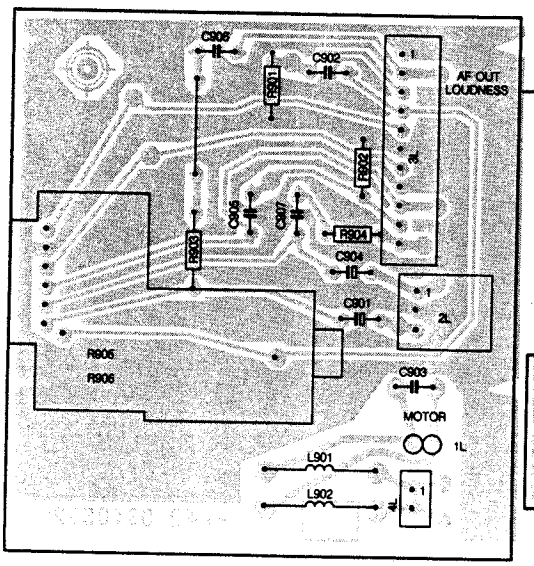
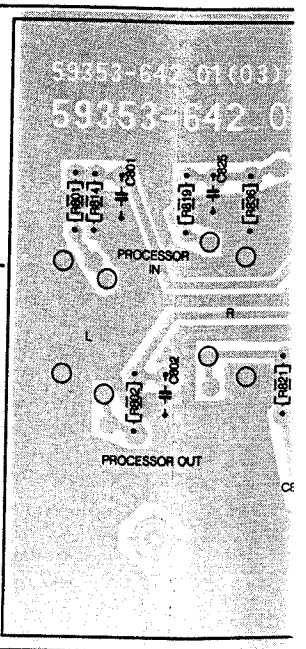


OPERATING PANEL (TONE CONTROL)

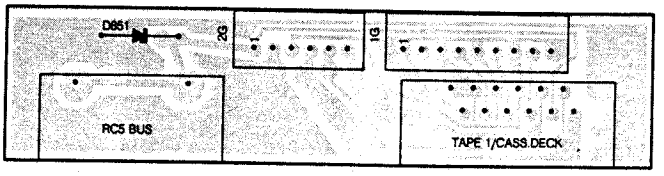


VOLUME CONTROL PANEL

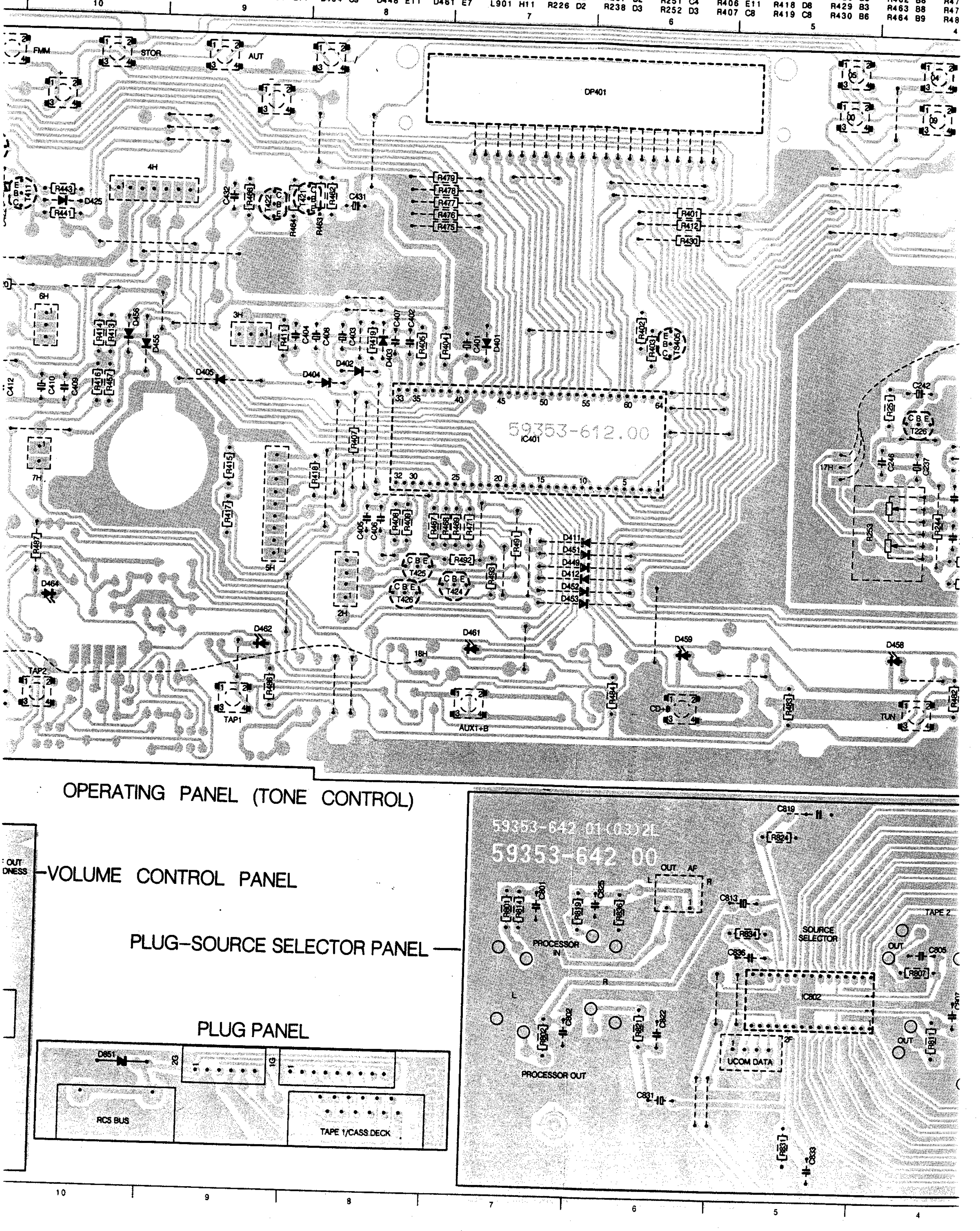
PLUG-SOURCE SELECTOR PANEL



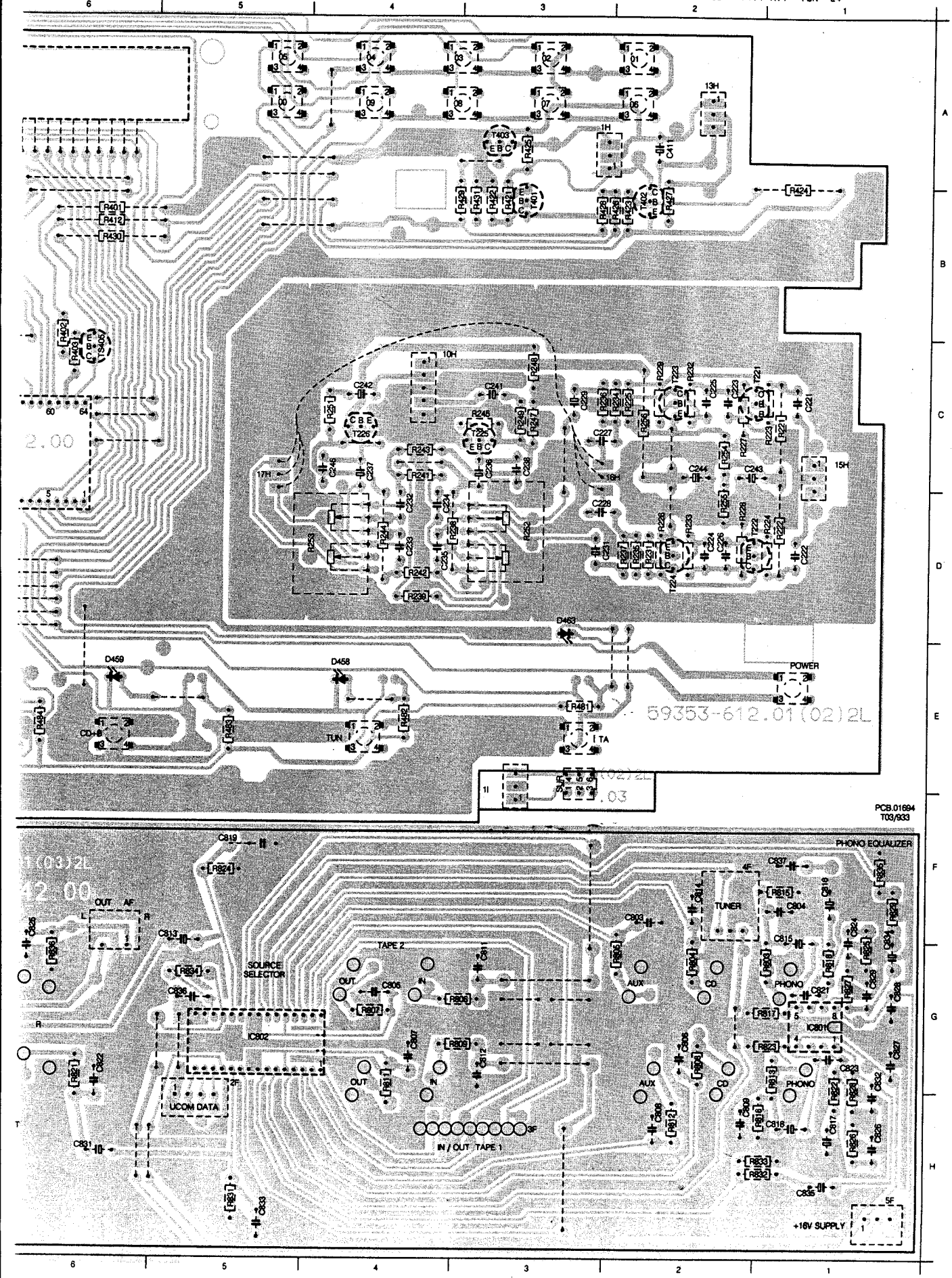
PLUG PANEL

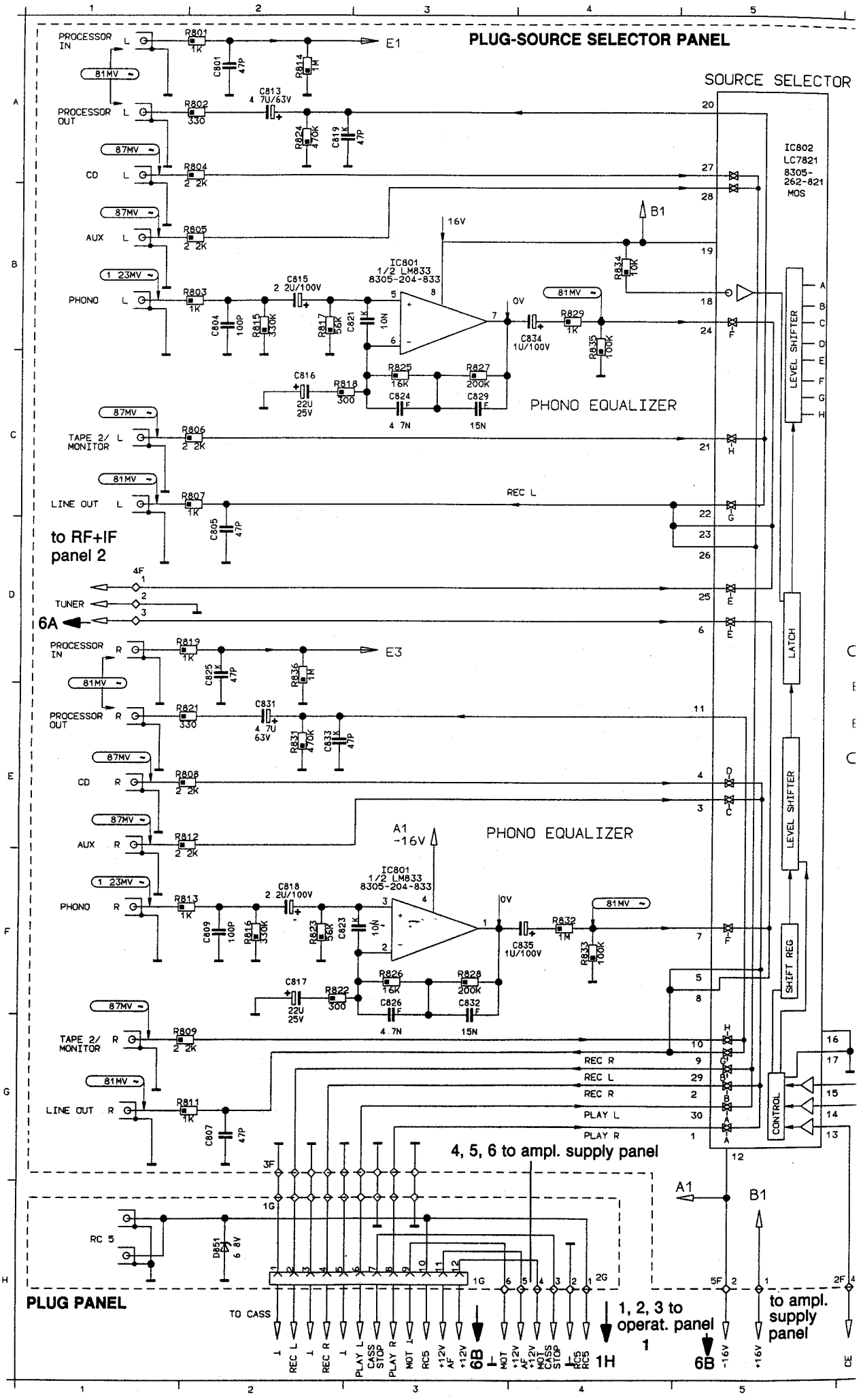


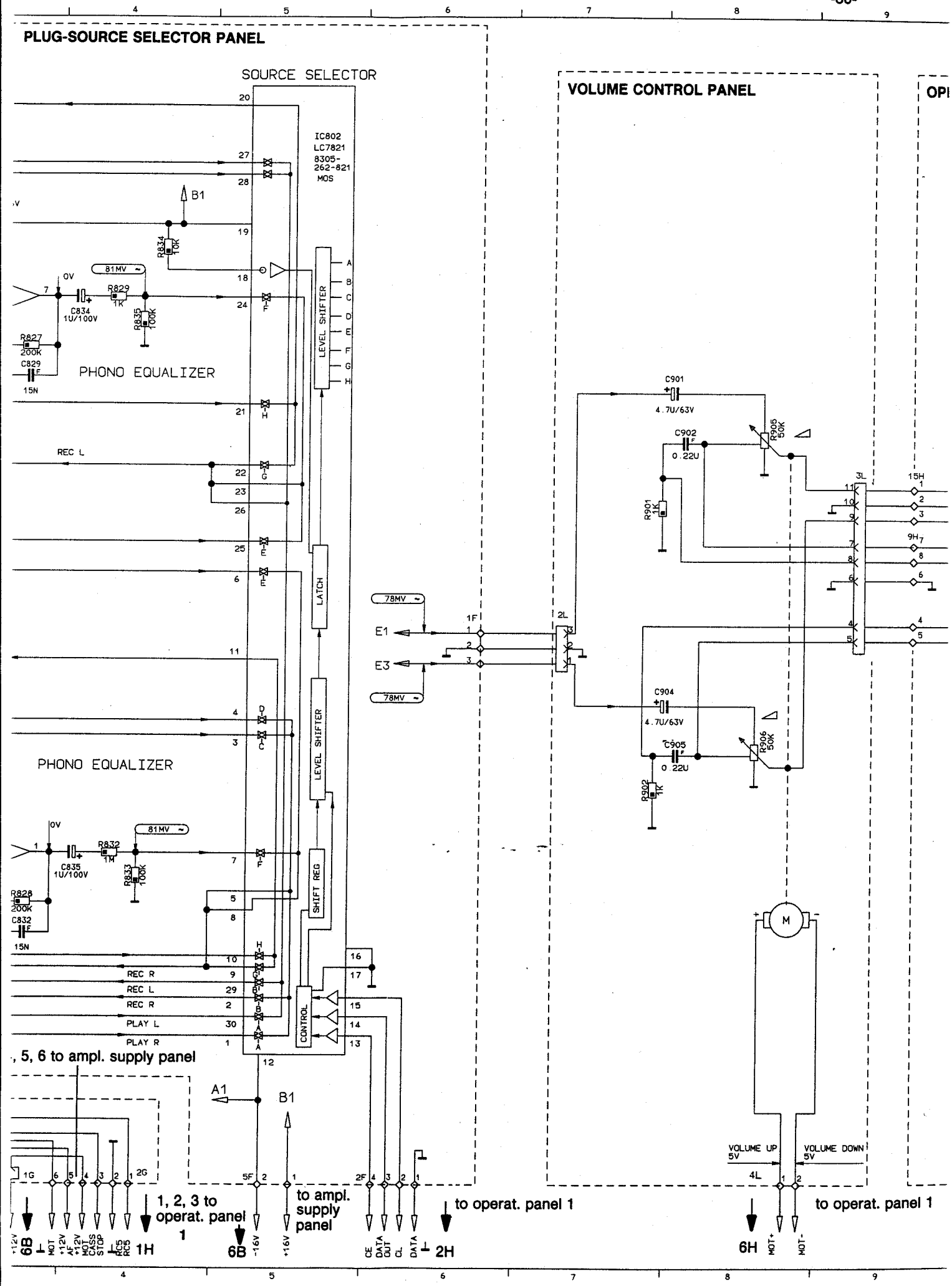
D2	C238	C3	C406	D8	C803	F2	C815	F1	C827	G1	C902	F11	D405	C9	D449	D7	D462	E9	L902	H11	R227	C2	R239	D4	R253	D4	R408	D8	R420	B11	R431	B3	R4	
C3	C241	C3	C407	B8	C804	F1	C816	F1	C828	G1	C903	H11	D405	C6	D451	D7	D463	D3	LW	A11	R228	D2	R241	C4	R254	C2	R409	D8	R421	B3	R441	B10	R4	
D3	C242	C4	C408	C8	C805	G4	C817	H1	C829	G1	C904	G11	D411	D7	D452	D7	D464	D10	MW	A12	R229	C2	R242	D4	R255	D2	R411	C9	R422	B3	R442	B11	R4	
C3	C243	C2	C409	C10	C806	G2	C818	H1	C831	H6	C905	G12	D412	D7	D453	D7	D851	H10	POWER	E1	R231	D2	R243	C4	R256	C2	R412	B6	R423	B2	R443	B10	R4	
D2	C244	C2	C410	C10	C807	G4	C819	F5	C832	G1	C906	F12	D421	B11	D454	A12	DP401	A7	R211	D12	R232	C2	R244	D4	R401	B6	R413	C10	R424	B1	R444	B11	R47	
D4	C246	C4	C411	A2	C808	H2	C821	G1	C833	H5	C907	G11	D422	B11	D455	C9	FM	A12	R221	C1	R233	D2	R245	C3	R402	B6	R414	C10	R425	A3	R445	B11	R47	
D4	C401	C7	C412	C10	C809	H2	C822	G6	C834	F1	CD+B	E6	D423	B11	D456	B10	FMM	A11	R222	D1	R234	C2	R247	C3	R403	C6	R415	C9	R426	B2	R446	B11	R47	
D4	C402	B8	C431	B8	C811	G3	C823	G1	C835	H1	D401	C7	D424	A11	D458	A12	IC401	C7	R223	C1	R235	D2	R248	C3	R404	C7	R416	C10	R427	B2	R457	C10	R47	
D4	C403	C8	C432	B9	C812	G3	C824	F1	C836	G5	D402	C8	D425	B10	D458	E4	IC801	G1	R224	D1	R236	C3	R249	C3	R405	C8	R417	D9	R428	B3	R462	B8	R47	
C3	C404	C8	C801	F7	C813	F6	C825	F6	C837	F2	D403	C8	D445	E8	D459	E6	IC802	G5	R225	C2	R237	D2	R251	C4	R406	E11	R418	D8	R429	B3	R463	B8	R47	
C4	C405	D8	C802	G6	C814	F2	C826	H1	C901	G11	D404	C9	D448	E11	D461	E7	L901	H11	R226	D2	R238	D3	R252	D3	R407	C8	R419	C8	R430	B6	R464	B9	R48	

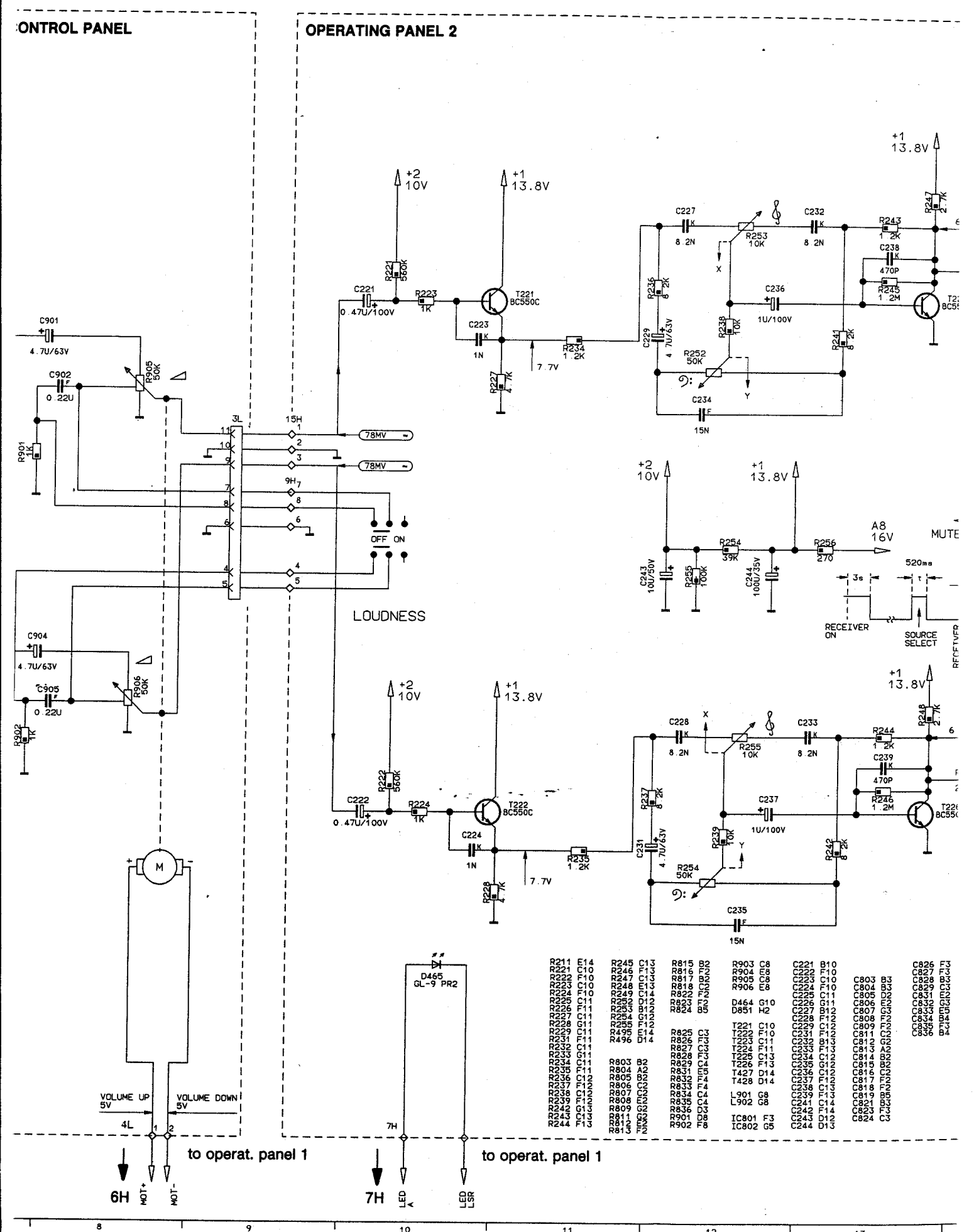


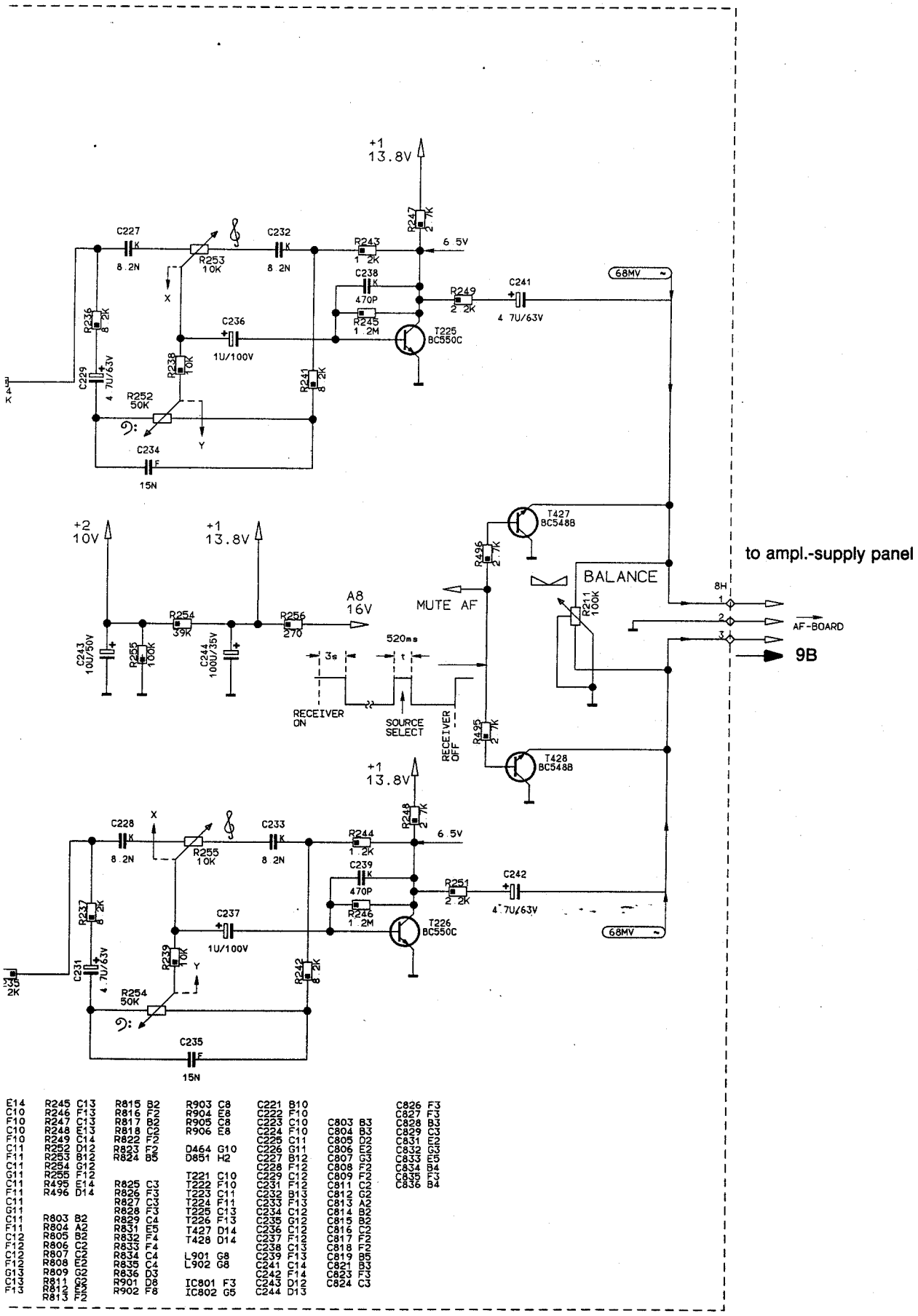
227	C2	R239	D4	R253	D4	R408	D8	R420	B11	R431	B3	R466	B9	R482	E4	R802	G7	R814	G7	R826	H1	R902	G11	T224	D2	T421	B8
228	D2	R241	C4	R254	C2	R409	D8	R421	B3	R441	B10	R467	D7	R483	E5	R803	G1	R815	F1	R827	G1	R903	G12	T225	C4	T422	B9
229	C2	R242	D4	R255	D2	R411	C9	R422	B3	R442	B11	R468	D7	R484	E6	R804	G2	R816	H1	R828	G1	R904	G11	T226	C4	T424	D8
231	D2	R243	C4	R256	C2	R412	B6	R423	B2	R443	B10	R469	D7	R486	E9	R805	G2	R817	G2	R829	F1	R905	H12	T401	B3	T425	D8
232	C2	R244	D4	R401	B6	R413	C10	R424	B1	R444	B11	R471	D7	R487	D10	R806	G4	R818	G1	R831	H5	R906	H12	T402	B2	T426	D8
233	D2	R245	C3	R402	B6	R414	C10	R425	A3	R445	B11	R475	B8	R491	D7	R807	G4	R819	G6	R832	H2	S211	E12	T403	A3	T427	D11
234	C2	R247	C3	R403	C6	R415	C9	R426	B2	R446	B11	R476	B8	R492	D7	R808	G2	R821	G6	R833	H2	STOR	A10	T404	C11	T428	C11
235	D2	R248	C3	R404	C7	R416	C10	R427	B2	R457	C10	R477	B8	R493	D7	R809	G4	R822	G1	R834	G5	SUR	E3	T411	B10	TA	E3
236	C3	R249	C3	R405	C8	R417	D9	R428	B3	R462	B8	R478	B8	R495	C11	R811	G4	R823	G2	R835	F1	T221	C1	T412	A11	TAP1	E9
237	D2	R251	C4	R406	E11	R418	D8	R429	B3	R463	B8	R479	A8	R496	D11	R812	H2	R824	F5	R836	G6	T222	D2	T413	B11	TAP2	E10
238	D3	R252	D3	R407	C8	R419	C8	R430	B6	R464	B9	R481	E3	R801	G7	R813	G1	R825	G1	R901	F11	T223	C2	T414	A11	TUN	E4
		6				5				4						3						2				1	



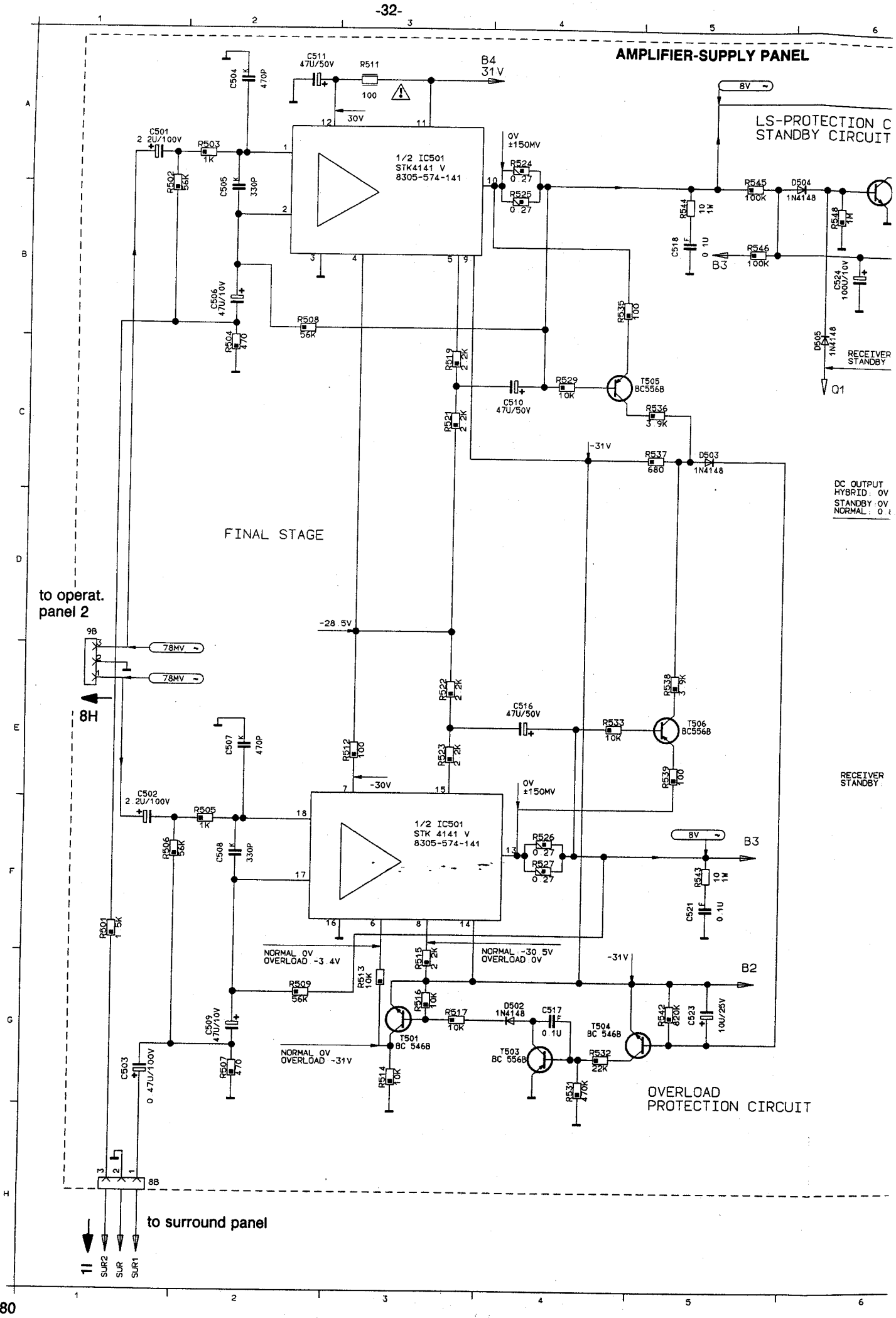

PLUG-SOURCE SELECTOR PANEL
SOURCE SELECTOR
IC802
LC7821
8305-262-821
MOS
PROCESSOR IN
PROCESSOR OUT
CD
AUX
PHONO
TAPE 2/ MONITOR
LINE OUT
TUNER
IC801
1/2 LM833
8305-204-833
PHONO EQUALIZER
LEVEL SHIFTER
LATCH
SHIFT REG
CONTROL
REC L
REC R
PLAY L
PLAY R
to RF+IF panel 2
4, 5, 6 to ampl. supply panel
PLUG PANEL
RC 5
TO CASS
1, 2, 3 to operat. panel
to ampl. supply panel

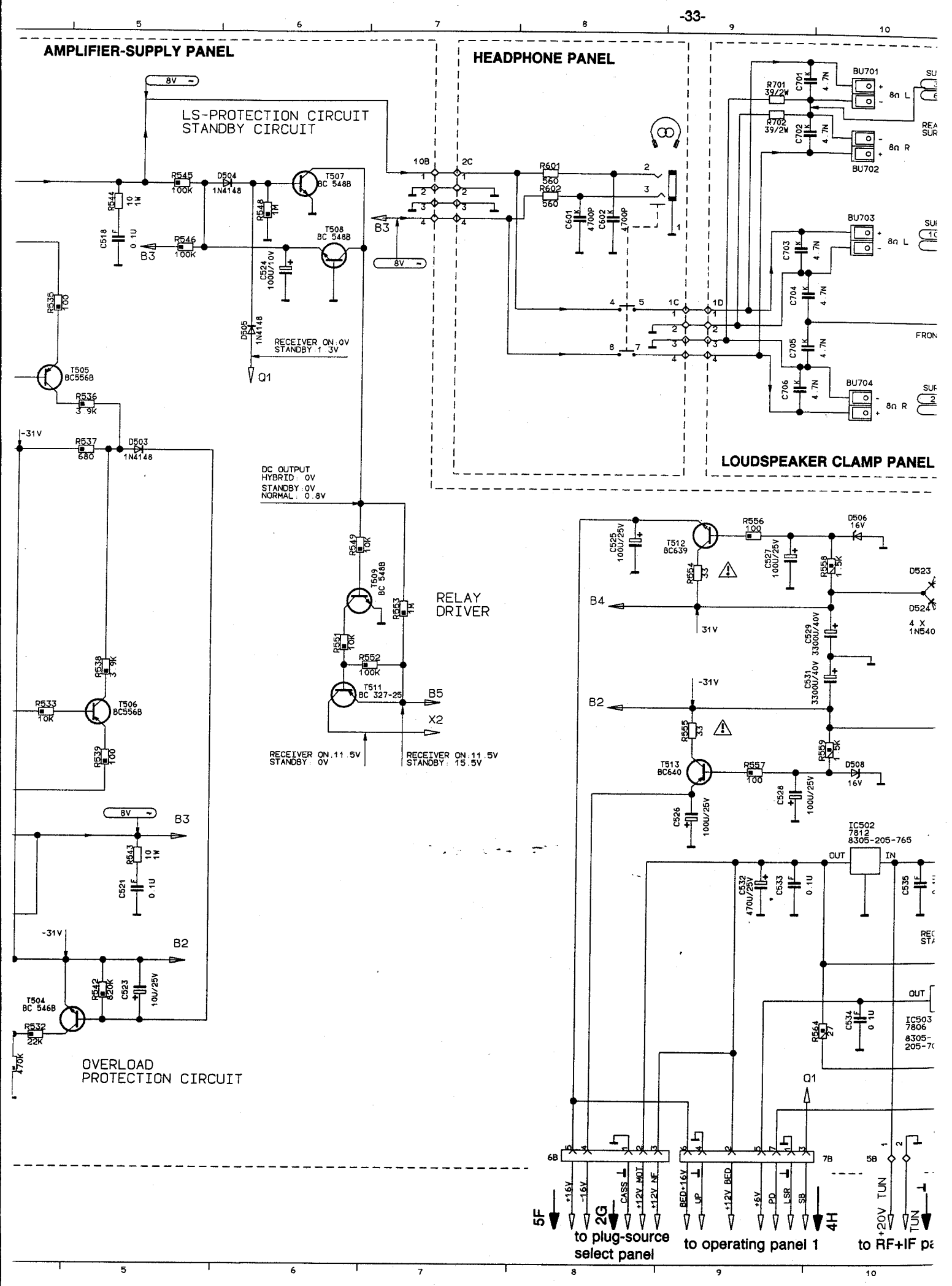

PLUG-SOURCE SELECTOR PANEL
SOURCE SELECTOR
IC802
LC7821
8305-
262-821
MOS
LEVEL SHIFTER
LATCH
SHIFT REG
CONTROL
PHONO EQUALIZER
PHONO EQUALIZER
R834
10K
R829
1K
C834
1U/100V
R835
100K
R827
200K
C829
15N
R832
1M
C835
1U/100V
R833
100K
R828
200K
C832
15N
81MV ~
0V
REC L
REC R
REC L
REC R
PLAY L
PLAY R
B1
A1
, 5, 6 to ampl. supply panel
1, 2, 3 to operat. panel 1
to ampl. supply panel
to operat. panel 1
to operat. panel 1
VOLUME CONTROL PANEL
C901
4.7U/63V
C902
0.22U
R905
50K
R901
1K
C904
4.7U/63V
C905
0.22U
R906
50K
R902
1K
78MV ~
E1
E3
VOLUME UP
5V
VOLUME DOWN
5V
M
+12V
MOT
+12V
+12V
MOT
CASS
STOP
RC5
RC5
-16V
+16V
CE
DATA
OUT
CL
DATA
MOT+
MOT-

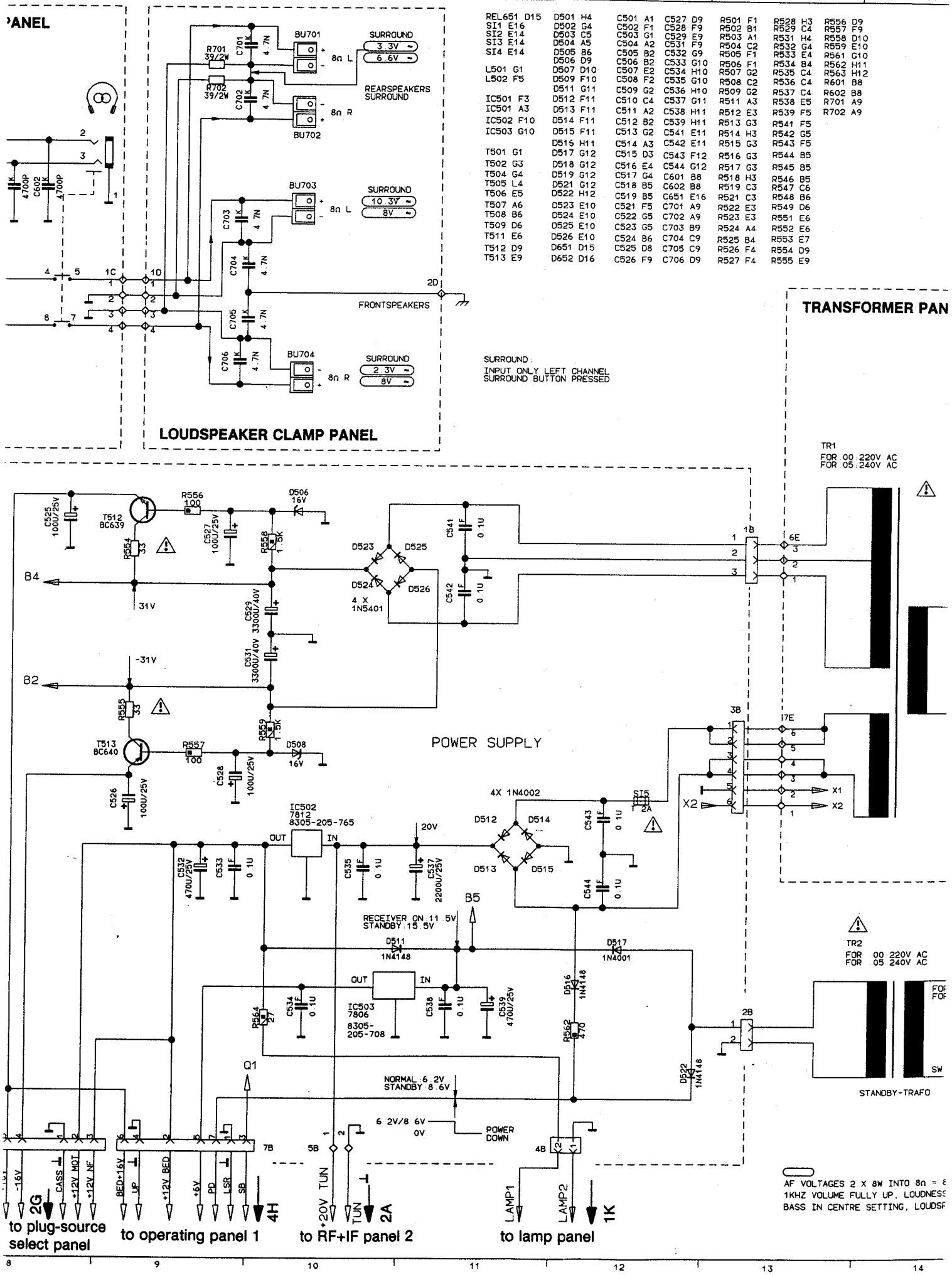

CONTROL PANEL
OPERATING PANEL 2
+2 10V
+1 13.8V
C901 4.7U/63V
C902 0.22U
R905 50K
R901 1K
3L
15H
9H
78MV
OFF ON
LOUDNESS
C904 4.7U/63V
C905 0.22U
R906 50K
R902 1K
M
VOLUME UP 5V
VOLUME DOWN 5V
4L
6H
MOT+
MOT-
7H
LED
LSR
to operat. panel 1
D465 GL-9 PR2
C221 0.47U/100V
R221 560K
R223 1K
T221 BC550C
C223 1N
R227 4.7K
R234 1.2K
7.7V
C227 8.2N
R253 10K
C232 8.2N
R243 1.2K
C238 470P
R245 1.2M
R247 2.7K
C236 1U/100V
R236 8.2K
C229 4.7U/63V
R238 10K
R241 8.2K
R252 50K
C234 15N
C222 0.47U/100V
R222 560K
R224 1K
T222 BC550C
C224 1N
R228 4.7K
R235 1.2K
C228 8.2N
R255 10K
C233 8.2N
R244 1.2K
C239 470P
R246 1.2M
R248 2.7K
C237 1U/100V
R237 8.2K
C231 4.7U/63V
R239 10K
R242 8.2K
R254 50K
C235 15N
R254 39K
R256 270
C243 100U/50V
R255 100K
C244 100U/35V
A8 16V
MUTE
520ms
3s
RECEIVER ON
SOURCE SELECT
R211 E14
R221 C10
R222 F10
R223 C10
R224 F10
R225 C11
R226 F11
R227 C11
R228 G11
R229 G11
R231 F11
R232 C11
R233 G11
R234 C11
R235 F11
R236 C12
R237 F12
R238 C12
R239 F12
R242 G13
R243 C13
R244 F13
R245 C13
R246 F13
R247 C13
R248 E13
R249 C14
R252 D12
R253 B12
R254 G12
R255 F12
R495 E14
R496 D14
R803 B2
R804 A2
R805 B2
R806 C2
R807 C2
R808 E2
R809 G2
R811 G2
R812 E2
R813 F2
R815 B2
R816 F2
R817 B2
R818 C3
R822 F2
R823 F2
R824 B5
R825 C3
R826 F3
R827 C3
R828 F3
R829 C4
R831 E5
R832 F4
R833 F4
R834 C4
R835 C4
R836 D3
R901 D8
R902 F8
R903 C8
R904 E8
R905 C8
R906 E8
D464 G10
D851 H2
T221 C10
T222 F10
T223 C11
T224 F11
T225 C13
T226 F13
T427 D14
T428 D14
L901 G8
L902 G8
IC801 F3
IC802 G5
C221 B10
C222 F10
C223 C10
C224 F10
C225 C11
C226 G11
C227 B12
C228 F12
C229 C12
C231 F12
C232 B13
C233 F13
C234 C12
C235 G12
C236 C12
C237 F12
C238 C13
C239 F13
C241 C14
C242 F14
C243 D12
C244 D13
C803 B3
C804 B3
C805 D2
C806 E2
C807 G3
C808 F2
C809 F2
C811 C2
C812 G2
C813 A2
C814 B2
C815 B2
C816 C2
C817 F2
C818 F2
C819 B5
C821 B3
C823 F3
C824 C3
C826 F3
C827 F3
C828 B3
C829 C3
C831 E2
C832 G3
C833 E5
C834 B4
C835 F3
C836 B4



E14	R245 C13	R815 B2	R903 C8	C221 B10			C826 F3
C10	R246 F13	R816 F2	R904 E8	C222 F10			C827 F3
F10	R247 C13	R817 B2	R905 C8	C223 C10	C803 B3		C828 B3
C10	R248 E13	R818 C2	R906 E8	C224 F10	C804 B3		C829 C3
F10	R249 C14	R822 F2		C225 C11	C805 D2		C831 E2
C11	R252 D12	R823 F2	D464 G10	C226 G11	C806 E2		C832 G3
F11	R253 B12	R824 B5	D851 H2	C227 B12	C807 G3		C833 E5
C11	R254 G12			C228 F12	C808 F2		C834 B4
G11	R255 F12		T221 C10	C229 C12	C809 F2		C835 F3
C11	R495 E14	R825 C3	T222 F10	C231 F12	C811 C2		C836 B4
F11	R496 D14	R826 F3	T223 C11	C232 B13	C812 G2		
C11		R827 C3	T224 F11	C233 F13	C813 A2		
G11		R828 F3	T225 C13	C234 C12	C814 B2		
C11	R803 B2	R829 C4	T226 F13	C235 G12	C815 B2		
F11	R804 A2	R831 E5	T427 D14	C236 C12	C816 C2		
C12	R805 B2	R832 F4	T428 D14	C237 F12	C817 F2		
F12	R806 C2	R833 F4		C238 C13	C818 F2		
C12	R807 C2	R834 C4	L901 G8	C239 F13	C819 B5		
F12	R808 E2	R835 C4	L902 G8	C241 C14	C821 B3		
G13	R809 G2	R836 D3		C242 F14	C823 F3		
C13	R811 G2	R901 D8	IC801 F3	C243 D12	C824 C3		
F13	R812 F2	R902 F8	IC802 G5	C244 D13			
	R813 F2						

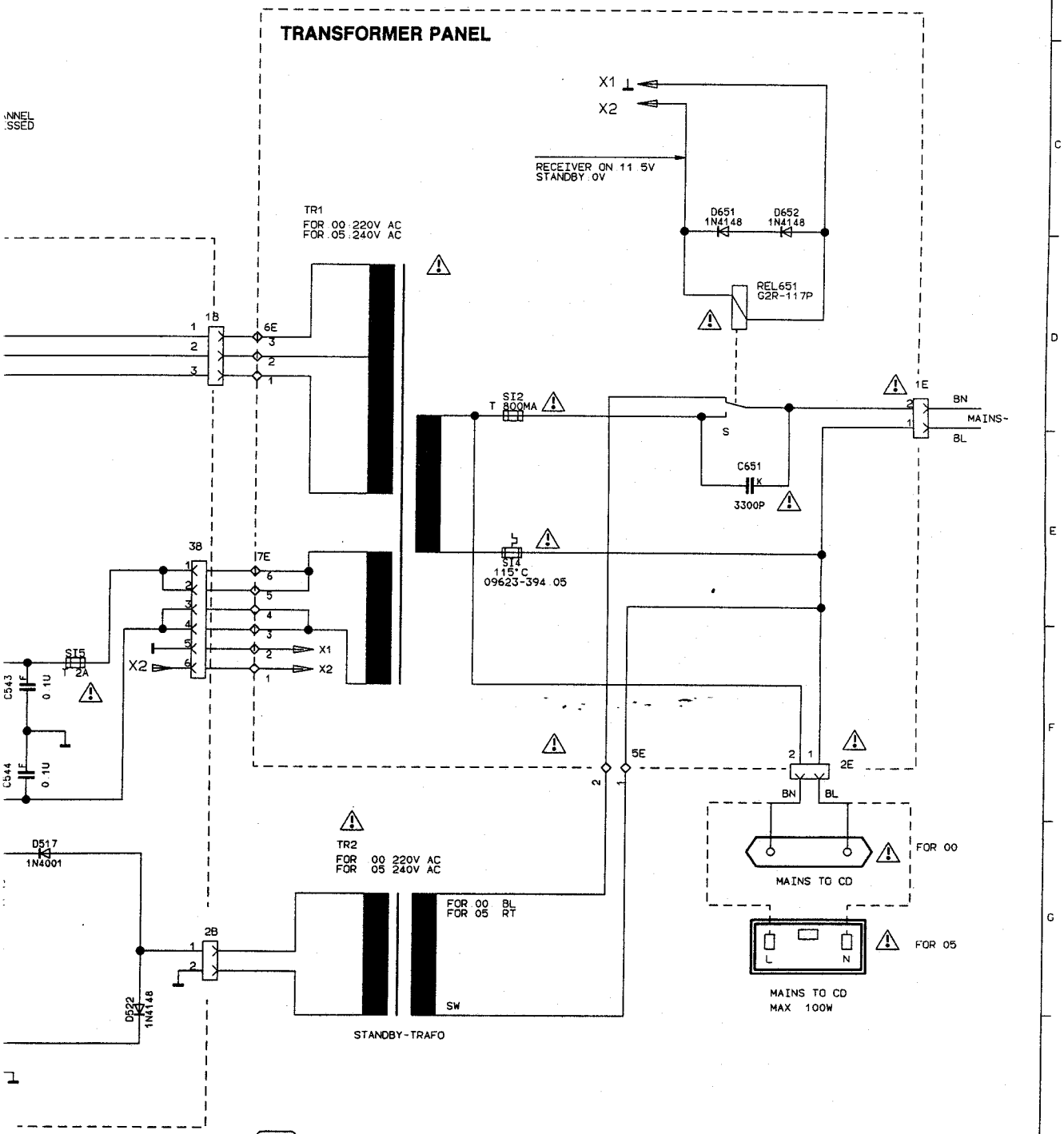

AMPLIFIER-SUPPLY PANEL
LS-PROTECTION C
STANDBY CIRCUIT
1/2 IC501
STK4141 V
8305-574-141
FINAL STAGE
to operat.
panel 2
8H
1/2 IC501
STK 4141 V
8305-574-141
OVERLOAD
PROTECTION CIRCUIT
to surround panel
RECEIVER
STANDBY
DC OUTPUT
HYBRID: 0V
STANDBY: 0V
NORMAL: 0
NORMAL 0V
OVERLOAD -3.4V
NORMAL -30.5V
OVERLOAD 0V
NORMAL 0V
OVERLOAD -31V
B4
31V
B3
B2
Q1
8V
78MV
-28.5V
-30V
-31V
0V
±150MV
SUR2
SUR
SUR1


AMPLIFIER-SUPPLY PANEL
HEADPHONE PANEL
LOUDSPEAKER CLAMP PANEL
LS-PROTECTION CIRCUIT
STANDBY CIRCUIT
RECEIVER ON:0V
STANDBY:1.3V
DC OUTPUT
HYBRID: 0V
STANDBY:0V
NORMAL: 0.8V
RELAY
DRIVER
RECEIVER ON:11.5V
STANDBY: 0V
RECEIVER ON:11.5V
STANDBY: 15.5V
OVERLOAD
PROTECTION CIRCUIT
to plug-source
select panel
to operating panel 1
to RF+IF pa



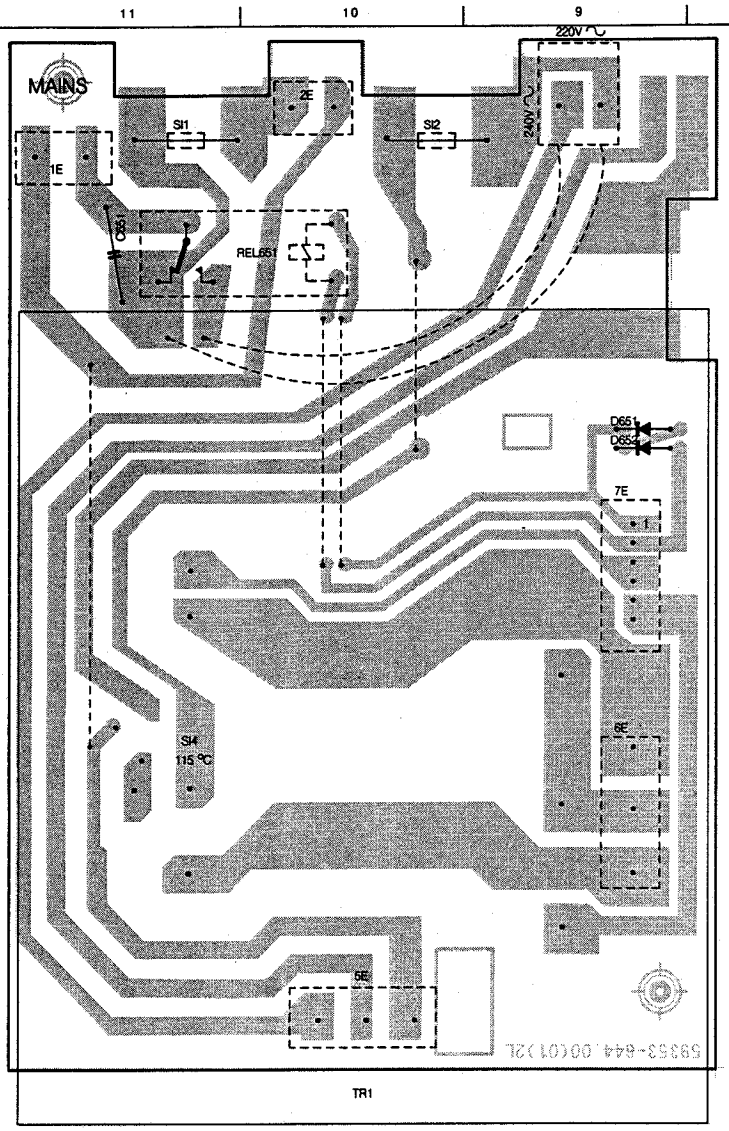
REL651 D15	D501 H4	C501 A1	C527 D9	R501 F1	R528 H3	R556 D9
SI1 E16	D502 G4	C502 F1	C528 F9	R502 B1	R529 C4	R557 F9
SI2 E14	D503 C5	C503 G1	C529 E9	R503 A1	R531 H4	R558 D10
SI3 E14	D504 A5	C504 A2	C531 F9	R504 C2	R532 G4	R559 E10
SI4 E14	D505 B6	C505 B2	C532 G9	R505 F1	R533 E4	R561 G10
	D506 D9	C506 B2	C533 G10	R506 F1	R534 B4	R562 H11
L501 G1	D507 D10	C507 E2	C534 H10	R507 G2	R535 C4	R563 H12
L502 F5	D509 F10	C508 F2	C535 G10	R508 C2	R536 C4	R601 B8
	D511 G11	C509 G2	C536 H10	R509 G2	R537 C4	R602 B8
IC501 F3	D512 F11	C510 C4	C537 G11	R511 A3	R538 E5	R701 A9
IC501 A3	D513 F11	C511 A2	C538 H11	R512 E3	R539 F5	R702 A9
IC502 F10	D514 F11	C512 B2	C539 H11	R513 G3	R541 F5	
IC503 G10	D515 F11	C513 G2	C541 E11	R514 H3	R542 G5	
	D516 H11	C514 A3	C542 E11	R515 G3	R543 F5	
T501 G1	D517 G12	C515 D3	C543 F12	R516 G3	R544 B5	
T502 G3	D518 G12	C516 E4	C544 G12	R517 G3	R545 B5	
T504 G4	D519 G12	C517 G4	C601 B8	R518 H3	R546 B5	
T505 L4	D521 G12	C518 B5	C602 B8	R519 C3	R547 C6	
T506 E5	D522 H12	C519 B5	C651 E16	R521 C3	R548 B6	
T507 A6	D523 E10	C521 F5	C701 A9	R522 E3	R549 D6	
T508 B6	D524 E10	C522 G5	C702 A9	R523 E3	R551 E6	
T509 D6	D525 E10	C523 G5	C703 B9	R524 A4	R552 E6	
T511 E6	D526 E10	C524 B6	C704 C9	R525 B4	R553 E7	
T512 D9	D651 D15	C525 D8	C705 C9	R526 F4	R554 D9	
T513 E9	D652 D16	C526 F9	C706 D9	R527 F4	R555 E9	

4	C501 A1	C527 D9	R501 F1	R528 H3	R556 D9
4	C502 F1	C528 F9	R502 B1	R529 C4	R557 F9
5	C503 G1	C529 E9	R503 A1	R531 H4	R558 D10
5	C504 A2	C531 F9	R504 C2	R532 G4	R559 E10
6	C505 B2	C532 G9	R505 F1	R533 E4	R561 G10
9	C506 B2	C533 G10	R506 F1	R534 B4	R562 H11
10	C507 E2	C534 H10	R507 G2	R535 C4	R563 H12
10	C508 F2	C535 G10	R508 C2	R536 C4	R601 B8
11	C509 G2	C536 H10	R509 G2	R537 C4	R602 B8
11	C510 C4	C537 G11	R511 A3	R538 E5	R701 A9
11	C511 A2	C538 H11	R512 E3	R539 F5	R702 A9
11	C512 B2	C539 H11	R513 G3	R541 F5	
11	C513 G2	C541 E11	R514 H3	R542 G5	
11	C514 A3	C542 E11	R515 G3	R543 F5	
12	C515 D3	C543 F12	R516 G3	R544 B5	
12	C516 E4	C544 G12	R517 G3	R545 B5	
12	C517 G4	C601 B8	R518 H3	R546 B5	
12	C518 B5	C602 B8	R519 C3	R547 C6	
12	C519 B5	C651 E16	R521 C3	R548 B6	
10	C521 F5	C701 A9	R522 E3	R549 D6	
10	C522 G5	C702 A9	R523 E3	R551 E6	
10	C523 G5	C703 B9	R524 A4	R552 E6	
10	C524 B6	C704 C9	R525 B4	R553 E7	
5	C525 D8	C705 C9	R526 F4	R554 D9	
6	C526 F9	C706 D9	R527 F4	R555 E9	

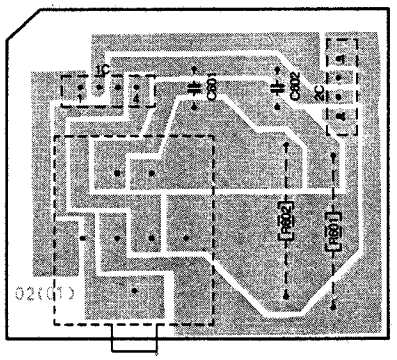


10B	F1	2E	A10	7B	G2	C504	D5	C510	D4	C521	E3	C528	C3	C536	B5	C544	C1	C704	A1	D506	C3	D514	C2	D522	E1	I C
1B	D1	3B	C1	7E	B9	C505	D5	C511	F5	C522	D3	C529	D3	C537	C2	C601	F9	C705	A1	D507	C4	D515	C2	D523	D2	I C
1C	F9	4B	D1	8B	G4	C505	F4	C512	D5	C523	G4	C531	E3	C538	C5	C602	F8	C706	A3	D508	C3	D516	D1	D524	E2	I C
1D	A1	5B	B2	9B	G5	C506	F5	C513	F4	C524	F3	C532	C4	C539	B1	C651	A11	D502	G3	D509	C3	D517	C1	D525	D2	L5
1E	A11	5E	D10	C501	G5	C507	F4	C517	G3	C525	B4	C533	C5	C541	D2	C701	A1	D503	G4	D511	C1	D518	C1	D526	E2	L5
2B	E1	6B	B4	C502	G4	C508	F4	C518	E3	C526	B3	C534	B5	C542	E2	C702	A1	D504	F3	D512	D2	D519	C1	D651	B9	R5
2C	F8	6E	C9	C503	G4	C509	G4	C519	D3	C527	C3	C535	C5	C543	C1	C703	A3	D505	G3	D513	C2	D521	C1	D652	B9	R5

TRAFO PANEL



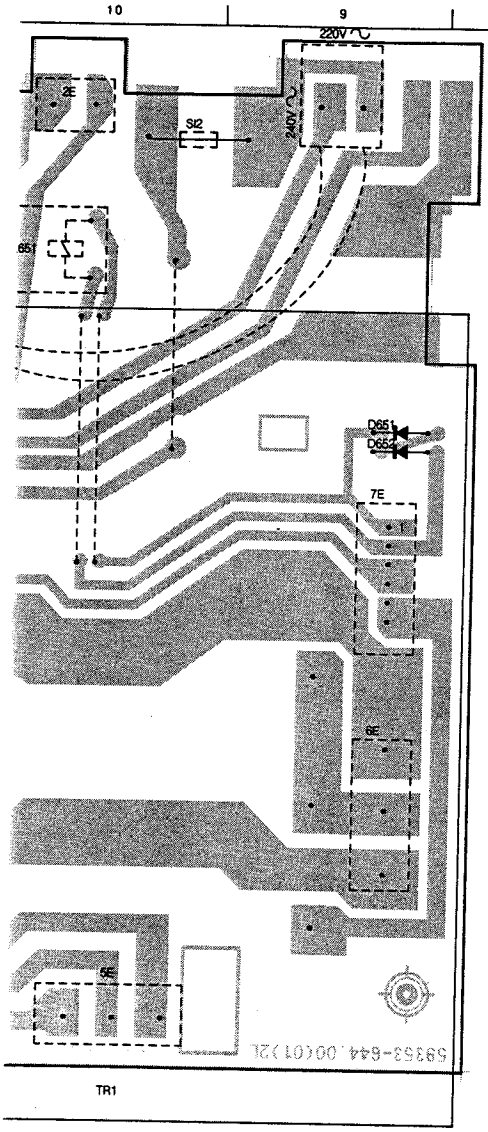
HEADPHONE SOCKET PANEL



G2	C504 D5	C510 D4	C521 E3	C528 C3	C536 B5	C544 C1	C704 A1	D506 C3	D514 C2	D522 E1	IC 50 C5	R503 G5	R511 E4	R519 D4	R527 E4	R536 G4	R544
B9	C505 D5	C511 F5	C522 D3	C529 D3	C537 C2	C601 F9	C705 A1	D507 C4	D515 C2	D523 D2	IC501 D5	R504 F5	R512 E5	R521 D4	R529 E4	R537 G4	R545
G4	C505 F4	C512 D5	C523 G4	C531 E3	C538 C5	C602 F8	C706 A3	D508 C3	D516 D1	D524 E2	IC502 C5	R505 F4	R513 D4	R522 D3	R531 G3	R538 F4	R546
G5	C506 F5	C513 F4	C524 F3	C532 C4	C539 B1	C651 A11	D502 G3	D509 C3	D517 C1	D525 D2	L501 E4	R506 G4	R514 F3	R523 F4	R532 G4	R539 E4	R547
G5	C507 F4	C517 G3	C525 B4	C533 C5	C541 D2	C701 A1	D503 G4	D511 C1	D518 C1	D526 E2	L502 F4	R507 G4	R515 E5	R524 E4	R533 E4	R541 E4	R548
G4	C508 F4	C518 E3	C526 B3	C534 B5	C542 E2	C702 A1	D504 F3	D512 D2	D519 C1	D651 B9	R501 G5	R508 D5	R516 F3	R525 E4	R534 E4	R542 G4	R549
G4	C509 G4	C519 D3	C527 C3	C535 C5	C543 C1	C703 A3	D505 G3	D513 C2	D521 C1	D652 B9	R502 G5	R509 F4	R517 F3	R526 E4	R535 E4	R543 E3	R551

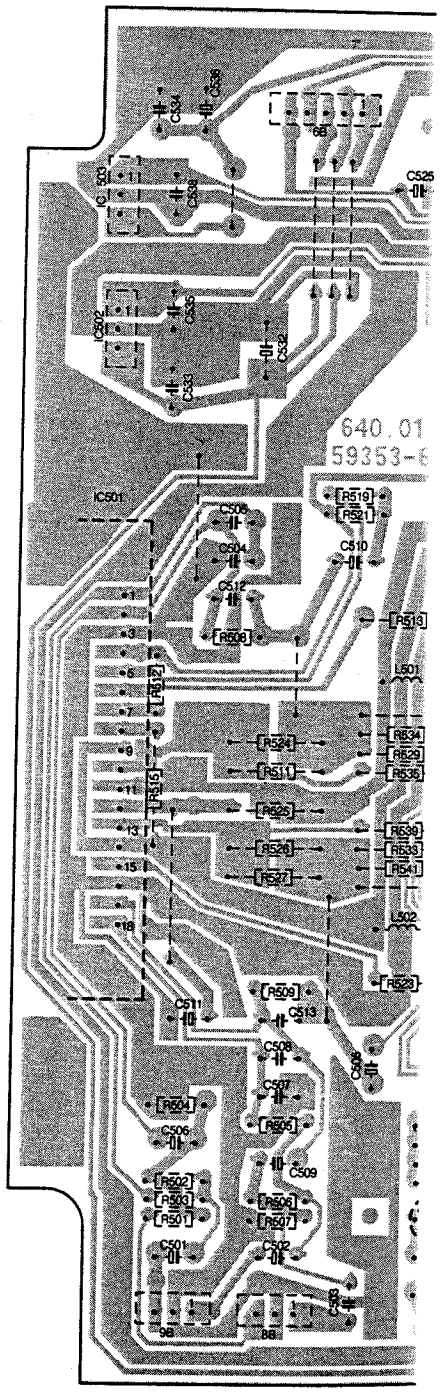
10 9 8 7 6 5 4

TRAFO PANEL

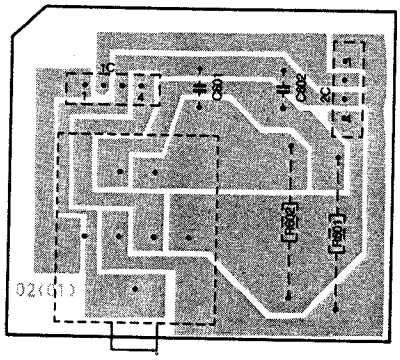


LOUDSPEAKER CLAMP PA

AMPLIFIER-SUPPLY PAI



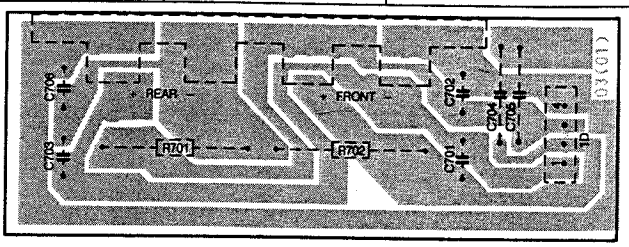
HEADPHONE SOCKET PANEL



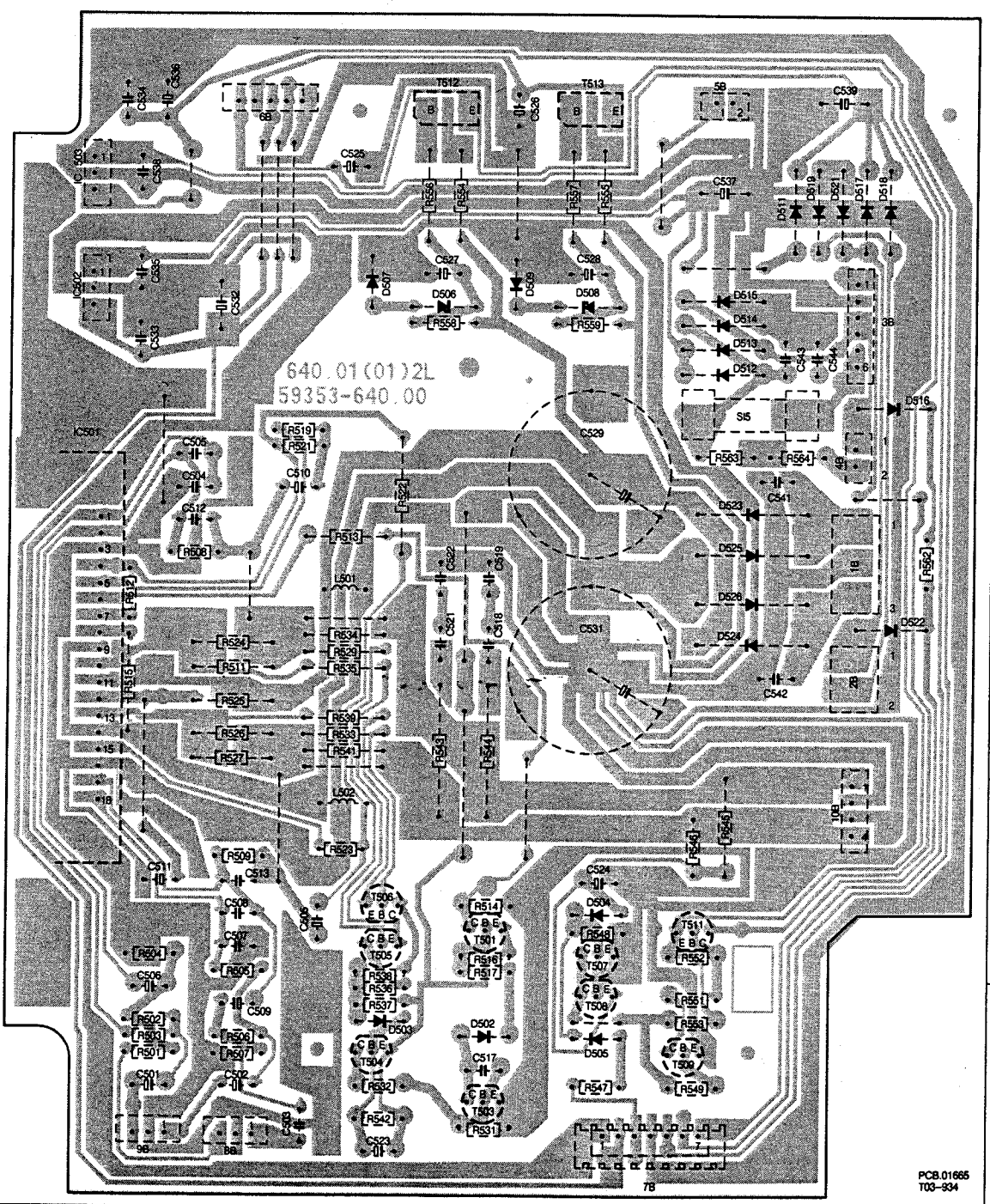
10 9 8 7 6 5 4

D522	E1	IC 50	C5	R503	G5	R511	E4	R519	D4	R527	E4	R536	G4	R544	E3	R552	F2	R559	C3	R702	A2	T503	G3	T511	F2
D523	D2	IC501	D5	R504	F5	R512	E5	R521	D4	R529	E4	R537	G4	R545	F2	R553	G2	R562	D1	REL65	A11	T504	G4	T512	B3
D524	E2	IC502	C5	R505	F4	R513	D4	R522	D3	R531	G3	R538	F4	R546	F2	R554	C3	R563	D2	SI 1	A11	T505	F4	T513	B3
D525	D2	L501	E4	R506	G4	R514	F3	R523	F4	R532	G4	R539	E4	R547	G3	R555	C2	R564	D2	SI 2	A10	T506	F4	TR1	E10
D526	E2	L502	F4	R507	G4	R515	E5	R524	E4	R533	E4	R541	E4	R548	F3	R556	C3	R601	G8	SI 4	C11	T507	F3		
D651	B9	R501	G5	R508	D5	R516	F3	R525	E4	R534	E4	R542	G4	R549	G2	R557	C3	R602	G8	SI 5	D2	T508	G3		
D652	B9	R502	G5	R509	F4	R517	F3	R526	E4	R535	E4	R543	E3	R551	G2	R558	C3	R701	A2	T501	F3	T509	G2		

LOUDSPEAKER CLAMP PANEL

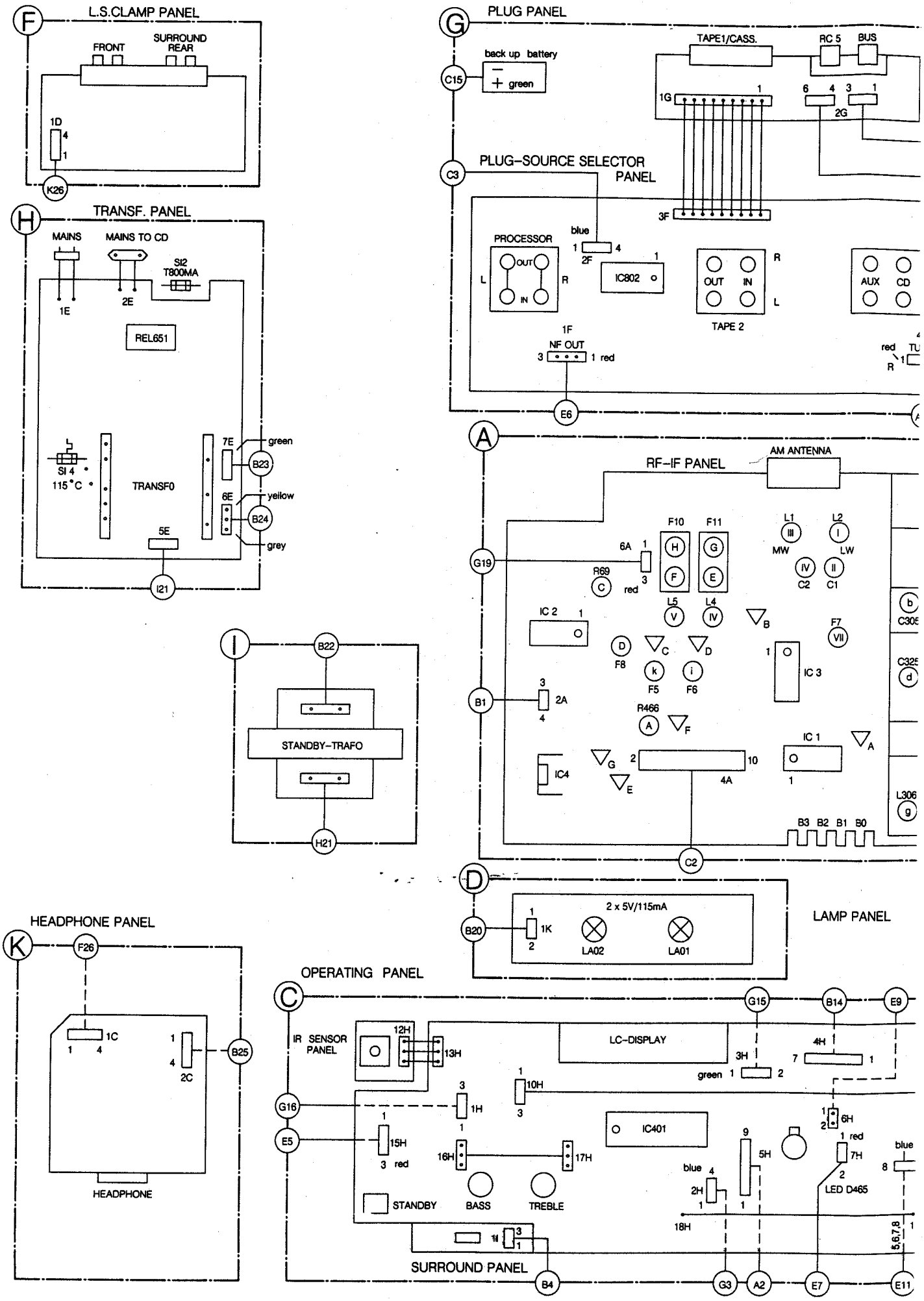


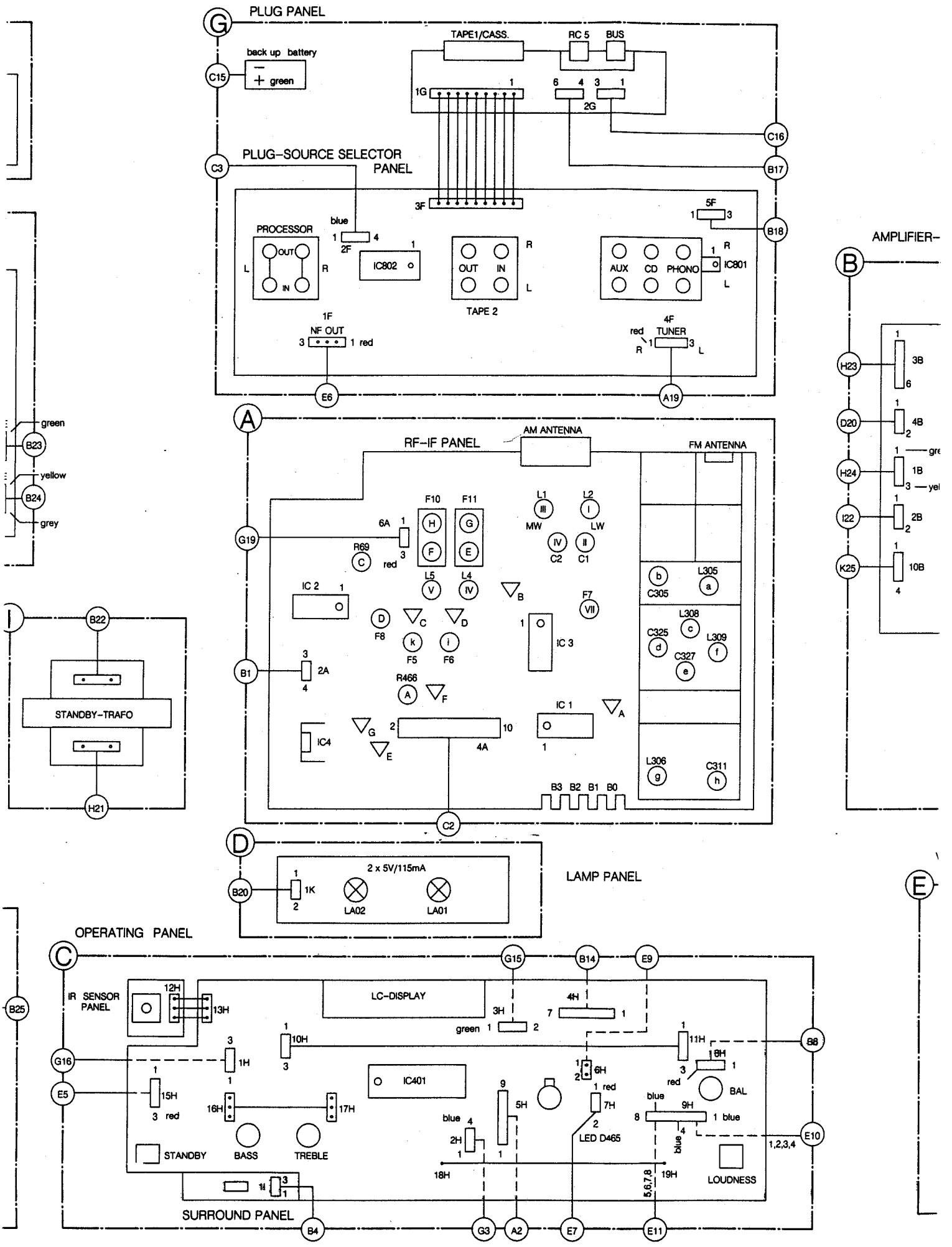
AMPLIFIER-SUPPLY PANEL

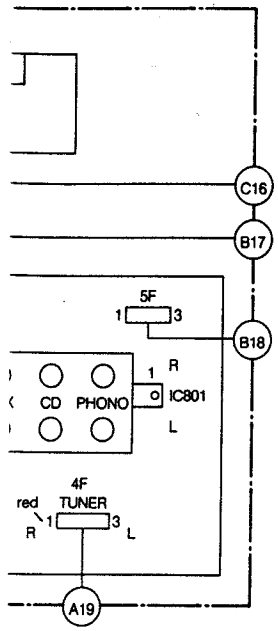


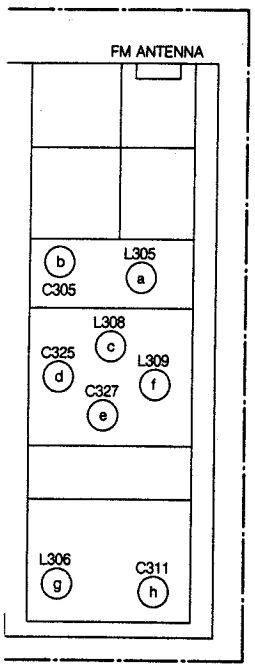
CS 23 981

WIRING DIAGRAM

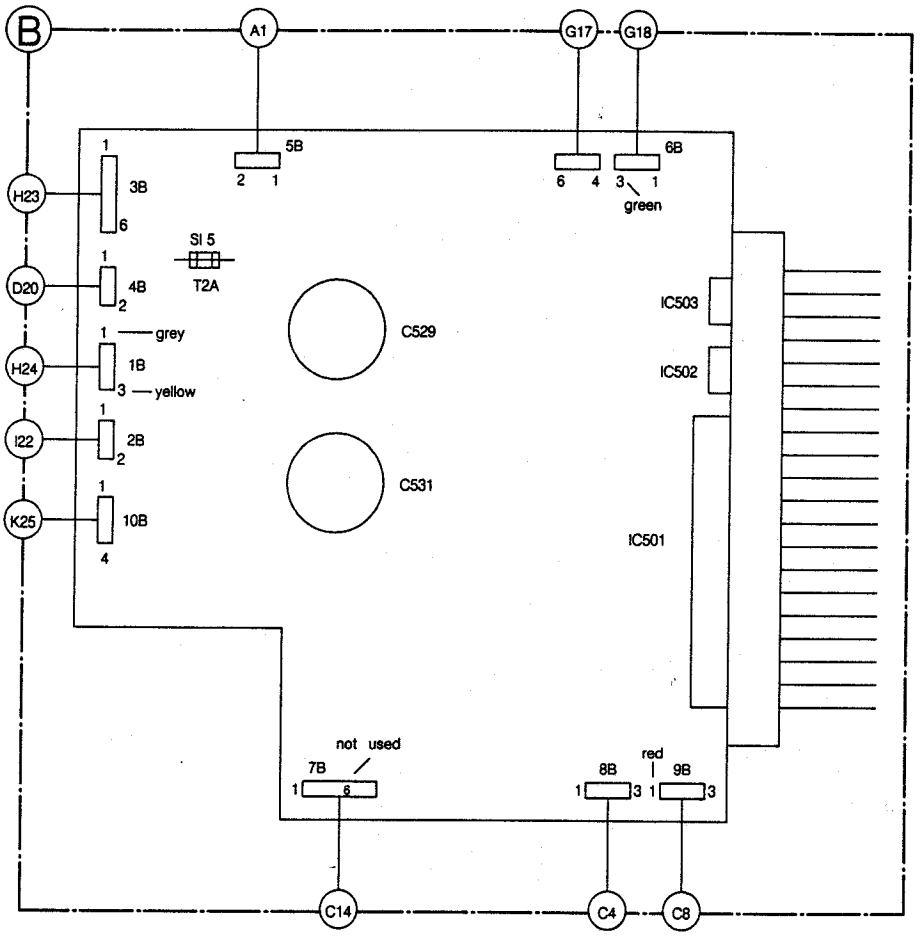



PLUG PANEL
back up battery
green
TAPE1/CASS.
RC 5
BUS
PLUG-SOURCE SELECTOR PANEL
PROCESSOR
OUT
IN
IC802
TAPE 2
AUX
CD
PHONO
IC801
NF OUT
red
TUNER
AMPLIFIER-
RF-IF PANEL
AM ANTENNA
FM ANTENNA
MW
LW
IC 2
IC 3
IC 1
IC4
STANDBY-TRAFO
green
yellow
grey
LAMP PANEL
2 x 5V/115mA
LA02
LA01
OPERATING PANEL
IR SENSOR PANEL
LC-DISPLAY
IC401
STANDBY
BASS
TREBLE
BAL
LOUDNESS
LED D465
SURROUND PANEL

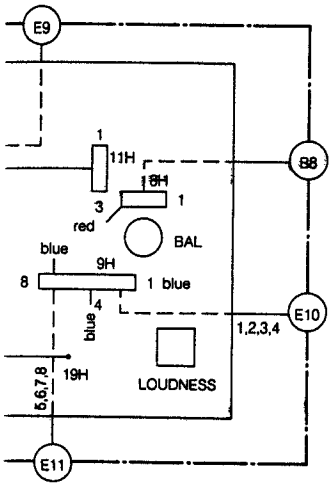




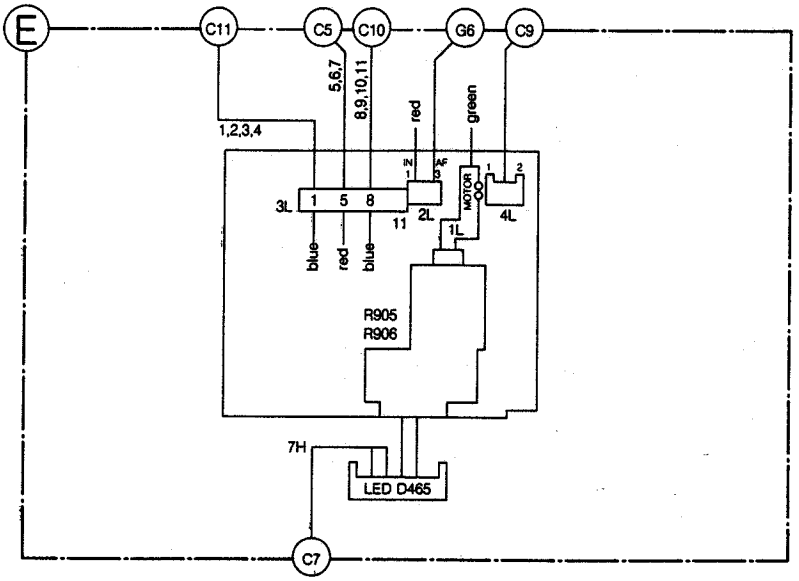
AMPLIFIER–SUPPLY PANEL



IEL



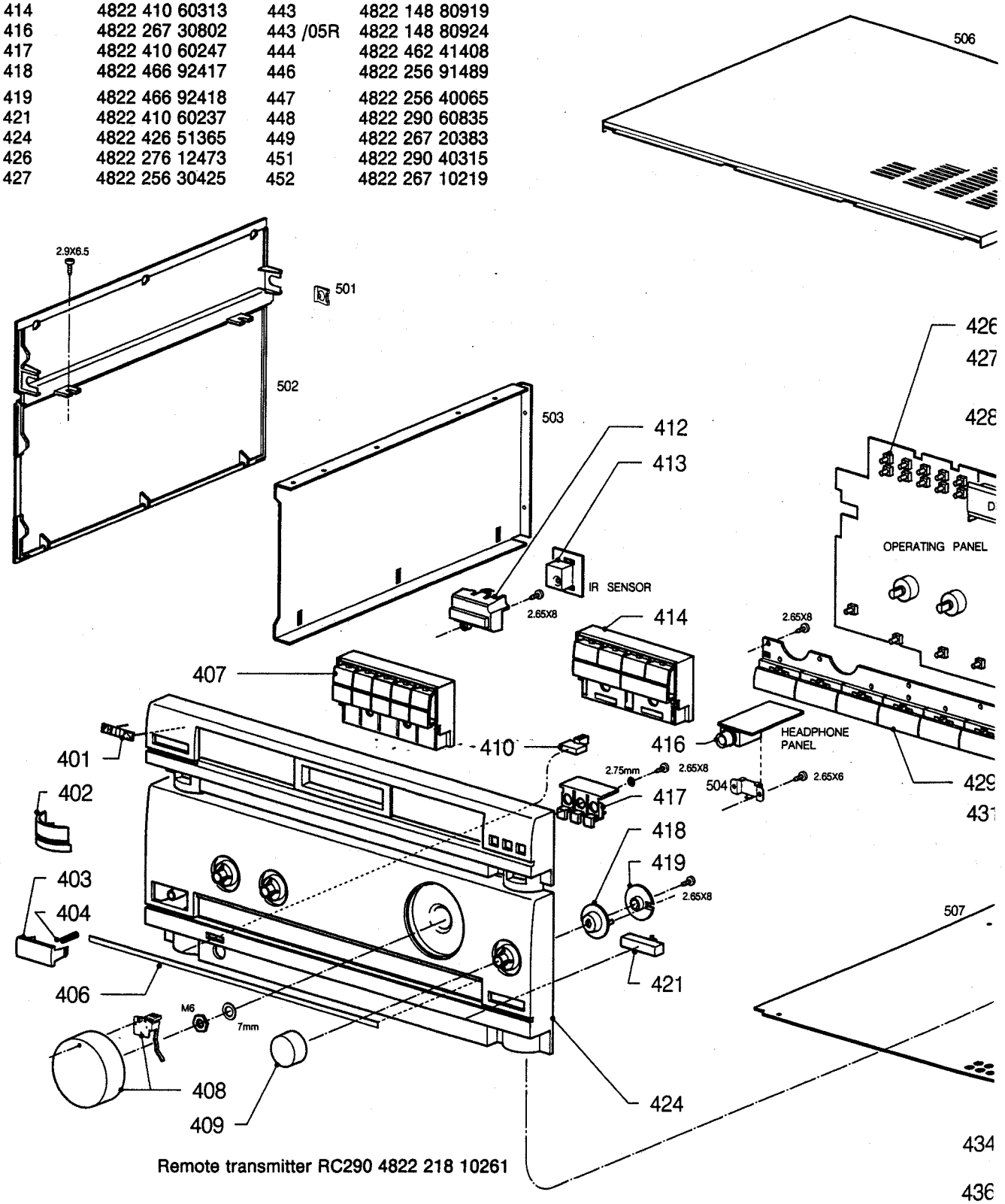
VOLUME CONTROL PANEL



MDA.02206
T06/931

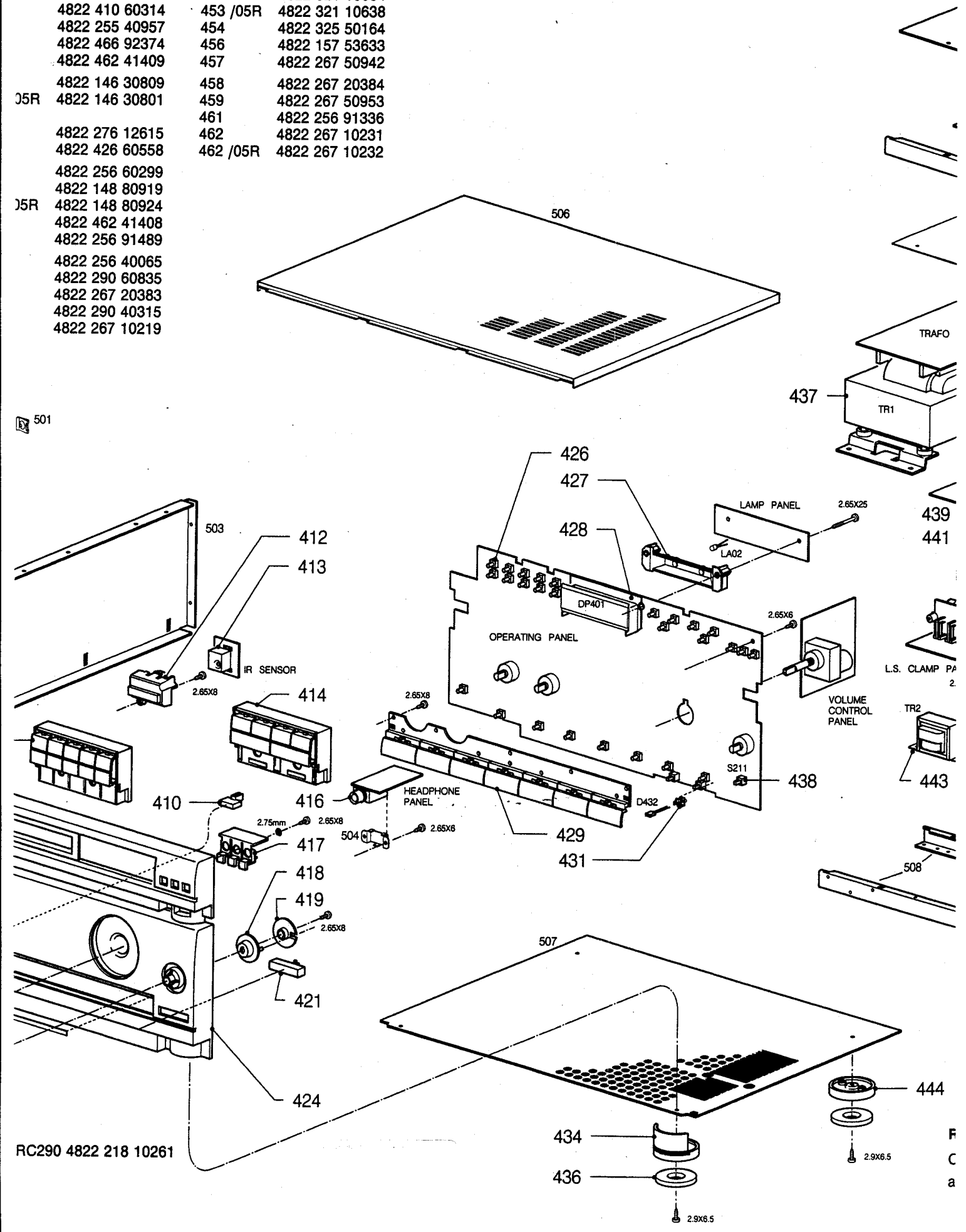
List of mechanical parts

401	4822 459 10806	428	4822 256 91492	453	4822 321 10634
402	4822 460 10966	429	4822 410 60314	453 /05R	4822 321 10638
403	4822 276 12621	431	4822 255 40957	454	4822 325 50164
404	4822 492 52115	434	4822 466 92374	456	4822 157 53633
406	4822 466 92425	436	4822 462 41409	457	4822 267 50942
407	4822 410 60312	437	4822 146 30809	458	4822 267 20384
408	4822 413 41535	437 /05R	4822 146 30801	459	4822 267 50953
409	4822 413 41529			461	4822 256 91336
410	4822 410 60249	438	4822 276 12615	462	4822 267 10231
412	4822 218 10295	439	4822 426 60558	462 /05R	4822 267 10232
413	4822 218 10292	441	4822 256 60299		
414	4822 410 60313	443	4822 148 80919		
416	4822 267 30802	443 /05R	4822 148 80924		
417	4822 410 60247	444	4822 462 41408		
418	4822 466 92417	446	4822 256 91489		
419	4822 466 92418	447	4822 256 40065		
421	4822 410 60237	448	4822 290 60835		
424	4822 426 51365	449	4822 267 20383		
426	4822 276 12473	451	4822 290 40315		
427	4822 256 30425	452	4822 267 10219		

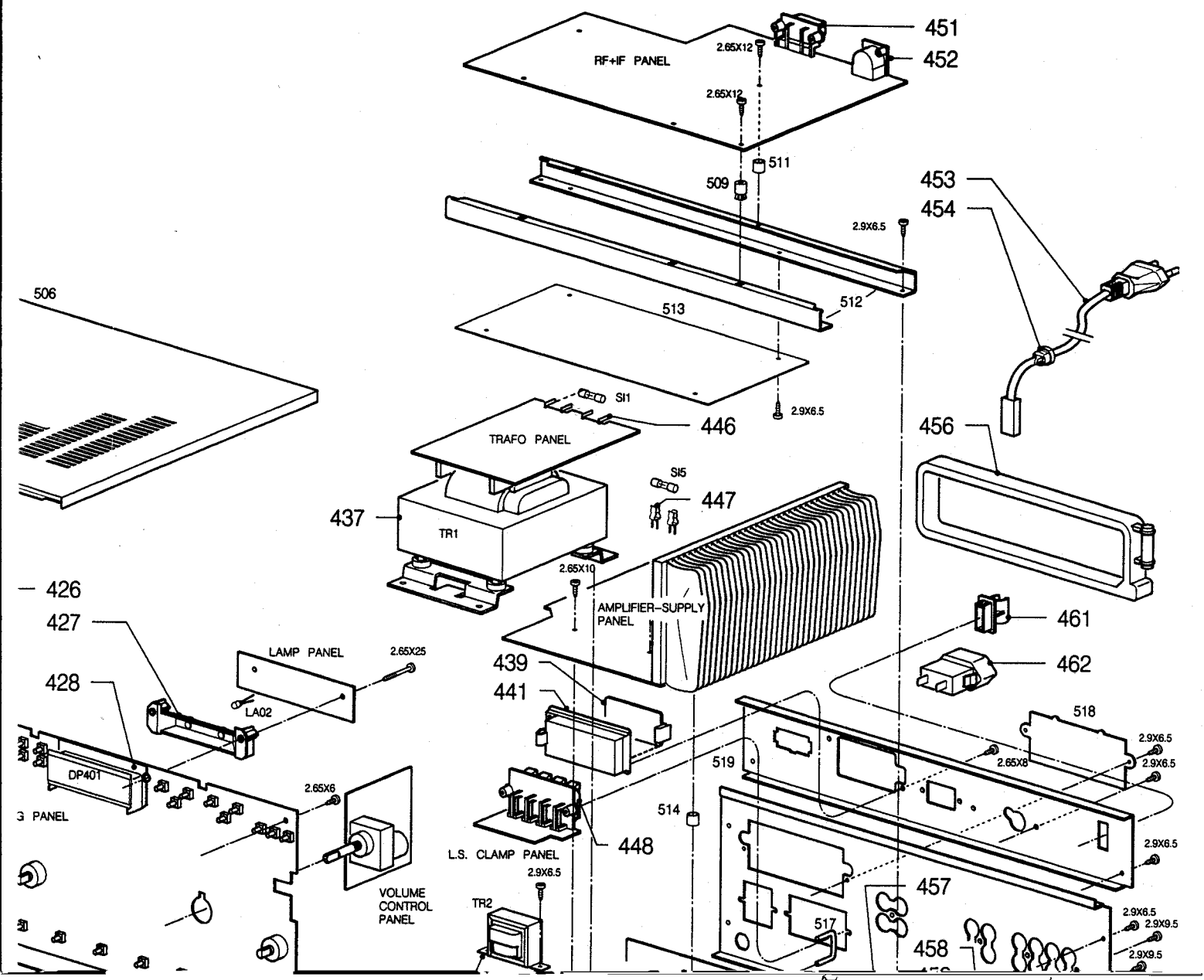


Remote transmitter RC290 4822 218 10261

4822 256 91492	453	4822 321 10634
4822 410 60314	453 /05R	4822 321 10638
4822 255 40957	454	4822 325 50164
4822 466 92374	456	4822 157 53633
4822 462 41409	457	4822 267 50942
4822 146 30809	458	4822 267 20384
)5R 4822 146 30801	459	4822 267 50953
	461	4822 256 91336
4822 276 12615	462	4822 267 10231
4822 426 60558	462 /05R	4822 267 10232
4822 256 60299		
4822 148 80919		
)5R 4822 148 80924		
4822 462 41408		
4822 256 91489		
4822 256 40065		
4822 290 60835		
4822 267 20383		
4822 290 40315		
4822 267 10219		



RC290 4822 218 10261


RF+IF PANEL
2.65X12
2.65X12
451
452
511
509
453
454
2.9X6.5
506
513
512
SI1
2.9X6.5
446
TRAFO PANEL
456
SI5
447
437
TR1
2.65X10
426
427
AMPLIFIER-SUPPLY PANEL
461
LAMP PANEL
2.65X25
439
462
428
441
LA02
518
2.9X6.5
DP401
519
2.65X8
2.9X6.5
2.65X6
G PANEL
514
2.9X6.5
448
L.S. CLAMP PANEL
2.9X6.5
457
VOLUME CONTROL PANEL
TR2
517
2.9X6.5
2.9X9.5
458
2.9X9.5

List of electrical parts

C1	4822 125 50332	Cap. trimmer 7.5-50 pF LW-RF
C2	4822 125 50329	Cap. trimmer 4.5-20 pF MW-RF
C12	4822 122 33562	Cap. ceramic 36 pF 2% N150
C13	4822 122 33562	Cap. ceramic 36 pF 2% N150
C22	4822 122 33568	Cap. ceramic 68 pF 2% N750
C23	4822 122 33567	Cap. ceramic 4.7 pF 0.25 pF 2% N750
C24	4822 122 33565	Cap. ceramic 150 pF 2% N470
C26	4822 122 33572	Cap. ceramic 390 pF N1500
C45	4822 122 33571	Cap. ceramic 100 pF 5% N750
C46	4822 122 33571	Cap. ceramic 100 pF 5% N750
C62	4822 122 33569	Cap. ceramic 180 pF 2% N750
C66	4822 122 33569	Cap. ceramic 180 pF 2% N750
C225	4822 122 33571	Cap. ceramic 100 pF 5% N750
C226	4822 122 33571	Cap. ceramic 100 pF 5% N750
C305	4822 125 50329	Cap. trimmer 4.5-20 pF FM-RF
C311	4822 125 50386	Cap. trimmer 3-10 pF FM-osc
C312	4822 122 33563	Cap. ceramic 3.3 pF 0.5 pF N150
C316	4822 122 33559	Cap. ceramic 10 pF 2% N150
C322	4822 122 33559	Cap. ceramic 10 pF 2% N150
C325	4822 125 50329	Cap. trimmer 4.5-20 pF FM-RF
C327	4822 125 50329	Cap. trimmer 4.5-20 pF FM-RF
C332	4822 122 33564	Cap. ceramic 150 pF 2% N150
C334	4822 122 33557	Cap. ceramic 4.7 pF 0.25 pF N150
C336	4822 122 33561	Cap. ceramic 22 pF 5‰ N150
C405	4822 122 33571	Cap. ceramic 100 pF 5% N750
C406	4822 122 33571	Cap. ceramic 100 pF 5% N750
C801	4822 126 10302	Cap. ceramic 47 pF 5% N150
C802	4822 126 10302	Cap. ceramic 47 pF 5% N150
C803	4822 126 10302	Cap. ceramic 47 pF 5% N150
C804	4822 122 33571	Cap. ceramic 100 pF 5% N750
C805	4822 126 10302	Cap. ceramic 47 pF 5% N150
C806	4822 126 10302	Cap. ceramic 47 pF 5% N150
C807	4822 126 10302	Cap. ceramic 47 pF 5% N150
C808	4822 126 10302	Cap. ceramic 47 pF 5% N150
C809	4822 122 33571	Cap. ceramic 100 pF 5% N750
C811	4822 126 10302	Cap. ceramic 47 pF 5% N150
C812	4822 126 10302	Cap. ceramic 47 pF 5% N150
C814	4822 126 10302	Cap. ceramic 47 pF 5% N150
C822	4822 126 10302	Cap. ceramic 47 pF 5% N150
C825	4822 126 10302	Cap. ceramic 47 pF 5% N150

R66	4822 100 20694	Potm. trimmer 100K
R69	4822 100 20694	Potm. trimmer 100K
R73	4822 111 91658	Res. carbon 270K 2%
R78	4822 111 91658	Res. carbon 270K 2%
R211	4822 101 30636	Potm. 100K balance
R252	4822 102 20099	Potm. 2x50K bass
R253	4822 102 20101	Potm. 2x10K treble
R323	4822 116 53666	Saf. res. 47 Ω 5%
R327	4822 116 53666	Saf. res. 47 Ω 5%
R332	4822 116 81908	Saf. res. 12 Ω 5%
R424	4822 116 53666	Saf. res. 47 Ω 5%
R511	4822 116 81993	Saf. res. 100 Ω 5%
R543	4822 116 81905	Saf. res. 10 Ω 2W 5%
R544	4822 116 81905	Saf. res. 10 Ω 2W 5%
R554	4822 116 53669	Saf. res. 33 Ω 5%
R555	4822 116 53669	Saf. res. 33 Ω 5%
R601	4822 116 81907	Saf. res. 560 Ω 2W 5%
R602	4822 116 81907	Saf. res. 560 Ω 2W 5%
R701	4822 116 81906	Saf. res. 39 Ω 2W 5%
R702	4822 116 81906	Saf. res. 39 Ω 2W 5%
R905, R906	4822 102 20102	Potm. 2x50K volume

4822 130 41246	BC327-25
5322 130 44647	BC368
4822 130 44461	BC546B
4822 130 40937	BC548B
4822 130 44196	BC548C
4822 130 41096	BC550C
4822 130 41691	BC556B
4822 130 44197	BC558B
4822 130 61755	BC560C
4822 130 61753	BD825-10
4822 130 61754	BD826-10
4822 130 40902	BF240
4822 130 41817	BF982-I
4822 130 42121	2SK30
4822 130 61298	2SK544E

4822 209 73435	LC7217
4822 209 72748	LC7821
4822 209 73452	LM833
4822 209 61336	M 34200M4-160SP
4822 209 70361	MC78M06CT
4822 209 61268	STK4141 V
5322 130 42221	7812
4822 209 71785	LA1266
4822 209 73434	LA3401

4822 130 33773	BAT42/BAT43
4822 130 31322	GL-9 PR2
4822 130 81003	KV1310
4822 130 81595	Zen. diode 2.7V 0.5W
4822 130 33783	Zen. diode 6.8V 0.5W
4822 130 81596	Zen. diode 6.8V 1.3W
4822 130 33785	Zen. diode 16V
4822 130 31438	1N4001
5322 130 30684	1N4002
4822 130 30621	1N4148
5322 130 34052	1N4151
4822 130 50462	1N5401G
4822 130 81002	SVC321

F1+F4	4822 242 72291	Cer. filter 10.7 MHz FM-IF
F5	4822 156 11093	Coil FM-IF
F6	4822 156 11092	Coil FM-IF
F7	4822 242 72289	Cer filter AM-IF 450 KHz
F8	4822 214 51727	LP filter
F9	4822 156 11104	Filter pilot 19 KHz
F10	4822 156 11104	Filter pilot 19 KHz
L1	4822 156 11094	Coil MW-RF
L2	4822 156 11095	Coil LW-RF
L3	4822 156 11091	Coil LW-osc.
L4	4822 156 11089	Coil MW-osc.
L5	4822 157 53632	Coil, choke 39 MH
L305	4822 156 11099	Coil FM-RF
L306	4822 156 11096	Coil FM-osc.
L307	4822 157 60206	Coil, choke
L308	4822 156 11098	Coil FM-RF
L309	4822 156 11097	Coil FM-RF
L311	4822 157 53631	Coil 1.5 UH
L501	4822 157 60207	Coil
L502	4822 157 60207	Coil

L901	4822 157 60208	Coil 47UH
L902	4822 157 60208	Coil 47UH
TR1	4822 146 30809	Transf. Mains 220 V
TR1 /05R	4822 146 30801	Transf. Mains 240 V
TR2	4822 148 80919	Stand-by trafo
TR2 /05R	4822 148 80924	Stand-by trafo

Miscellaneous

DP401	4822 130 90692	LCD display
KR401	4822 242 72611	Crystal CSB1000D
LA401	4822 134 40957	Lamp 5V 115 mA
LA402	4822 134 40957	Lamp 5V 115 mA
P301	4822 526 10406	Bar, ferrite
P302	4822 526 10406	Bar, firrite
REL651	4822 280 50076	Relais G2R-117P
Q1	4822 242 72294	Crystal 7.2 MHz
Q2	4822 242 72295	Crystal 456 KHz
SI1	4822 253 30019	Fuse 800 mA/T
SI2	4822 253 30022	Fuse 1.25A/T
SI4	4822 252 20237	Thermo fuse 115°C
SI5	4822 253 30025	Fuse 2A/T